



**Green Carbon**  
**Energy & Environment Services**

**UCR PROJECT  
VERIFICATION REPORT 2023**

**GCEES**



## Project Verification Report Form (VR)


### CARBON OFFSET UNIT (CoU) PROJECT

## Verification Report (VR)

### Basic Information

<b>Name of approved UCR Project Verifier/Reference No.</b>	Green Carbon Energy & Environment Services (GCEES)
<b>Validity of UCR approval of Verifier</b>	Valid
<b>Completion Date of this VR</b>	24/05/2023
<b>UCR Project Registration Code</b>	UCR-254
<b>Approved UCR Scopes and GHG Sectoral scopes for Project Verification</b>	Scope: 1 Energy Industries (Renewable/Non-Renewable)
<b>Host Country where project is located</b>	India
<b>Title of the project activity</b>	15 MW Biomass Project, At Shanti G.D Ispat and Power Pvt Ltd
<b>Name of Entity requesting verification service</b> (can be Project Owners themselves or any Entity having authorization of Project Owners, example aggregator.)	Shanti G.D. Ispat & Power Private Limited
<b>Contact details of the representative of the Entity, requesting verification service (Focal Point assigned for all communications)</b>	Email ID: <a href="mailto:orr.sgd@gmail.com">orr.sgd@gmail.com</a> Mobile No: +91-9340848186
<b>Applied methodologies (approved methodologies by UCR Standard used)</b>	Applied Baseline Methodology: AMS-I.D : "Grid connected renewable electricity generation", version 18  Standardized Methodology: Not Applicable.
<b>GHG Sectoral scopes linked to the applied methodologies</b>	<b>SCOPE:</b> 01, Energy industries (Renewable/Non-renewable sources)

<p><b>Project Verification Criteria: Mandatory requirements to be assessed</b></p>	<ul style="list-style-type: none"> <li>• UCR Standard</li> <li>• Applicable Approved Methodology</li> <li>• Applicable Legal requirements /rules of host country</li> <li>• Eligibility of the Project Type Start date of the Project activity</li> <li>• Meet applicability conditions in the applied methodology</li> <li>• Credible Baseline</li> <li>• Emission Reduction calculations</li> <li>• Monitoring Report</li> <li>• No GHG Double Counting</li> </ul>
<p><b>Project Verifier's Confirmation: The UCR Project Verifier has verified the UCR project activity and therefore confirms the following:</b></p>	<ul style="list-style-type: none"> <li>• The UCR Project Verifier[Vivek Ahirwar, C/o Green Carbon Energy &amp; Environment Services], certifies the following with respect to the UCR Project Activity[15 MW Biomass Project, At Shanti G.D Ispat and Power Pvt Ltd].</li> <li>• The Project Owner has correctly described the Project Activity in the Project Concept Note (version 01, dated 18/10/2022) including the applicability of the approved methodology [AMS-I.D Small-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources, Version 18.0] and meets the methodology applicability conditions and has achieved the estimated GHG emission reductions, complies with the monitoring methodology and has calculated emission reductions estimates correctly and conservatively.</li> <li>• The Project Activity was designed to generate GHG emission reductions amounting to the estimated is 93,790tCO<sub>2</sub>e per annum, as indicated in the PCN, which are additional to the reductions that are likely to occur in absence of the Project Activity and complies with all applicable UCR rules. However, actual claim achieved during the current monitoring period is 843,929tCO<sub>2</sub>e annualized average.</li> <li>• During the current verification period a total</li> </ul>

	<p>of 843,929CoUs achieved.The Project Activity is not likely to cause any net-harm to the environment and/or society.</p> <p>➤ The Project Activity complies with all the applicable UCR rules and therefore recommends UCR Program to register the Project activity with above mentioned labels.</p>
<b>Project Verification Report, reference number and date of approval</b>	<p>Verification Report Reference: GCEES/VR/UCR-254</p> <p>Approved on:24/04/2023</p>
<b>Name of the authorised personnel of UCR Project Verifier and his/her signature with date</b>	<p><b>Name: Vivek Kumar Ahirwar</b> <b>Date: 24/04/2023</b></p>
<b>Signature:</b>	

### Additional Reference:

<b>Proof of Contracting for UCR Verification</b>	<b>Reference</b>
Service Contract with Gemco Energy Limited	Agreement dated, 13/01/2023
UCR Program Verification and No Conflict-of-Interest Statement	Statement signed, dated 02/01/2023
UCR Assurance statement on double accounting	Statement signed, dated 02/02/2023

## SECTION A. PROJECT VERIFICATION REPORT

### A.1. Executive summary:

Green Carbon Energy & Environment Services (GCEES), an approved URC Auditor represented by Vivek Kumar Ahirwar, has been appointed by “Shanti G.D. Ispat & Power Private Limited.” to perform an independent UCR verification of its project, “15 MW Biomass Project, At Shanti G.D Ispat and Power Pvt Ltd”, UCR ref. no. 254 for the reported GHG emission reductions for the given monitoring period from 01/01/2014 to 30/11/2022 (both dates included). As per UCR Standard, a UCR project must undergo independent third-party verification and certification of emission reductions as the basis for issuance of ‘Carbon Offset Units’ (CoU).

The objectives of this verification exercise are to establish that:

- project activity has been implemented and operated as per the registered PCN/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete;
- The actual monitoring systems & procedures and monitoring report conforms with the requirements of the approved monitoring plan and the approved monitoring methodology;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.

### A.2. Scope:

The scope of the verification is the independent and objective review and ex-post determination of the monitored reductions in GHG emission by the project activity. The verification is based on review of monitoring report, supporting information.

- (a) The registered PCN, including the monitoring plan and the corresponding validation opinion(s);
- (b) Monitoring report for the monitoring period under verification including CoU calculations sheets and all supporting documents;
- (c) The applied monitoring methodology
- (d) Relevant decisions, clarifications and guidance from the UCR;
- (e) All information and references relevant to the project activity, resulting in emission reductions;
- (f) The project is assessed against the requirements of the UCR.

Based on the recommendations in the latest version of UCR requirements for project activity, the Verifier has considered a rule-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

### A.3. Description of project:

The project is titled under UCR as “15 MW Biomass Project, At Shanti G.D Ispat and Power Pvt Ltd”, which is a grid connected biomass power project located in Janjgir-Champa district in the state of Chhattisgarh (India).

The project activity has achieved total GHG emission reduction of **843,929tCO<sub>2</sub>e** for overall period of 8 years, 10 months starting from 01/01/2014 to 30/11/2022 (both days included) during this first monitoring and verification cycle. Since the project activity generates electricity through biomass energy, a clean renewable energy source it will not cause any negative impact on the environment and thereby contributes to climate change mitigation efforts.

This small-scale biomass Power project has already been commissioned during the period 23/09/2013. Commissioning certificate verified by the verification team to confirm the date of commissioning. The project was found implemented and operated in line with the information provided in the PCN.

The project activity is promoted by “Shanti G.D. Ispat & Power Private Limited” hereinafter called as project proponent or PP. The project activity is installation and operation of a 75 TPH biomass-based boiler in village Mahuda of Janjgir- Champa district in the state of Chhattisgarh in India.

The verification team has verified the status of commissioning of the project and found accurate as per record, as follows:

Boiler		Commissioning Date
Type	Multi fuel fired, Circulating Fluidized Bed Combustion Boiler	23/09/2013
No. of boilers	1	
Boilers capacity/system flowrate	75 TPH	
Steam pressure ate super heater outlet	90 Kg/Cm2	
Steam temperature at super heater outlet	5150C +/- 5%	
Turbo-Generator Rated		
Type	Extraction cum condensing	23/09/2013
Capacity	15 MW /15000 KWh	
Steamparameter at TG inlet	84 Kg/Cm2	
Steam temperature at TG inlet	515 °C	
Generator Voltage	11 KV	
Frequency	50 Hz	

RPM	6053	
Power factor	0.9	

S no	Installation date	Date Replacement	Meter Location	Make	Meter service no	Accuracy Class	condition
1	Since Commissioning	IN SERVICE	<b>GENERATION</b>	L&T	12023157	0.5S	Functional
2	12-Apr-17	IN SERVICE	<b>EXPORT BILLING CSEB (ABT Check METER )</b>	secure	Y0319673	0.2S	Functional
3	12-Apr-17	30-Jun-21	<b>EXPORT BILLING CSEB ( ABT MAIN METER)</b>	secure	Y0319672	0.2S	N/A
4	21-Jun-21	IN SERVICE		secure	CSE52157	0.2S	Functional

The status of commissioning and location details has been verified.

## SECTION B. Project Verification team, technical reviewer and approver

### B.1. Project Verification team:

SN	Role	Last Name	First Name	Affiliation	Involvement
1	Lead Auditor	Ahirwar	Vivek	UCR (Representing GCEES, approved by UCR as Verifier)	Document Review Desk Review Remote Assessment UCR documentation
2	Technical Reviewer	Soni	Ravikant	GCEES (Appointed as a technical reviewer of the UCR verification)	Technical Review



## SECTION C. Means of Project Verification

### C.1. Desk/document review:

As per the registered project document and based on the ex-ante project calculation, it has been verified that the project activity utilises the renewable biomass for generation of electricity and is capable to generate around 13023.65 MWh per year, which is estimated based on operation with around 90% utilization factor with efficient utilization of the available biomass energy through adoption of an efficient and modern technology. The net generated electricity from the project activity has been evacuated to regional grid under a long-term power purchase arrangement with the CGEB, as verified from the power purchase agreement.

This small-scale Biomass power project has already been commissioned as on 23/09/2013.

Through document review in conjunction with the interview with the plant personnel, the verification team confirms that all physical features of the project activity including technology, data collection systems and storage systems have been implemented in accordance with the Project PCN.

The monitoring plan requires the ex-post monitoring of the net electricity supplied by the project activity ( $EG_{BL,y}$ ) to the national grid, calculated based on measured values of electricity export ( $EG_{export,y}$ ) and electricity import ( $EG_{import,y}$ ) through energy meters installed at the plant switchyard outgoing feeder grid interconnection point. The monthly values taken from the Joint Meter Readings and invoices which is found to be a standard practice.

The energy meters were found to be installed at the respective places as observed through captured photographs by the verification.

The verification team has reviewed the power purchase agreement & the subsequent amendment copy to confirm the capacity and also that the power from the project activity is being supplied to the grid in compliance to the applied methodology AMS-I. D Version 18.

The net generated electricity from the project activity is sold to the national grid under the Power Purchase Agreement (PPA) signed between the PP and the utility. In pre-project scenario, electricity delivered to the grid by the project activity would have otherwise been generated by the operation of fossil fuel-based grid-connected power plants and by the addition of new fossil fuel-based generation sources in the grid. As the nature of the biomass project, no fossil fuel is involved for power generation in the project activity apart from emergency fuel.

The installed equipment such as turbines, generators, DG set, transformers and meters (location, serial number, class, manufacturer, etc.) were verified from the photographic evidences and found to be consistent with the information provided in the Monitoring Report.

The project boundaries and all key equipment are in line with the registered PCN. The verification team confirmed during the onsite visit that the UCR project is completely operational and the name plate details of all key equipment are in line to the registered PCN.

The details of operation of the project activity were cross checked through interviews and found consistent.

The allocation of the responsibilities is followed as described in the registered PCN. Routines for the data archiving are defined and documented. Calculations laid down in the monitoring report are in line with registered PCN.

Interviews were carried out with the project site personals and project managers during the audit to verify the actual monitoring system practiced by PO. It was found that the project personals are well aware of their roles & responsibilities, regularly trained as well.

The actual monitoring system practiced for the monitoring period is in line with the monitoring plan provided in the registered PCN. More details are provided in sections below.

The actual emission reductions achieved are **8,43,930 tCO<sub>2</sub>e (i.e.,8,43,930CoUs)**for the current monitoring period. This value is the sum of all the monthly results, which is then expressed in yearly total and thereby derived most conservative manner by rounding down all values to arrive at the final ER. All the input values and the results were verified, found accurate and hence accepted.

## C.2.Off-site inspection:

Date:	Activity Performed	Means of communication	Outcome
N/A	N/A	N/A	N/A

This section is not applicable as on-site visit has been done on dated 19/01/2023.

## C.3. Interviews:

SN	Interviews			Date	Subject
	Last Name	First Name	Affiliation		
1	Ji	Nagraj	Plant Head	19/01/2023	Regarding monitoring of the project activities
2	Agarwal	Harshit	Director	19/01/2023	ER calculation and Bills
3	Baid	Tejsh	Consultant	19/01/2023	Invoices and project activity

## C.4. Sampling approach:

No sampling has been undertaken; full data set reviewed to arrive on a reasonable level of assurance.

## C.5. Clarification request (CLs), corrective action request (CARs) and forward action request (FARs) raised:

The verification team has observed some points where clarification and corrective actions were required to finalize the verification assessment. These were responded by PP and found satisfactory. Please refer to the Appendix D of this report for more details.

## SECTION D. Project Verification findings

### D.1. Identification and eligibility of project type:

<b>Means of Project Verification</b>	Verifier checked the monitoring reports with “UCR Program Verification Standard”, and referred the version 02 as final. The information in the registered PCN has been referred during verification. The verification of the current monitoring period is found to have met all the requirements.
<b>Findings</b>	Nil.
<b>Conclusion</b>	The project is renewable energy project and already registered with UCR, the eligibility requirements of UCR met for the project type.

### D.2. General Description of project activity:

<b>Means of Project Verification</b>	<p>Verifier checked the monitoring report against the project description submitted under the registered UCR PCN.</p> <p>Also, while verifying “UCR Program Verification Standard”, version 02 has been referred, the verification of the current monitoring period is found to have met all the requirements.</p> <p>Through document review in conjunction with the interview with the project site personnel and UCR consulting team, the verification team confirms that all physical features of the project activity including technology, data collection systems and monitoring systems etc. have been implemented in accordance with the project PCN.</p>
<b>Findings</b>	Corrective action requests were raised during the verification assessment related to the consistency in ER values and PP has responded satisfactorily and hence there is no open finding.
<b>Conclusion</b>	<p>According to UCR Program Verification Standard, version 02, the verifier confirms that:</p> <p>(a) The project activity is implemented as per the registered PCN, the project activity was fully commissioned and operational at the time of verification.</p> <p>(b) The actual operation of the UCR project activity is in line to the registered PCN, the power generated from the project activity is supplied to national grid through DISCOM.</p>

	<p>(c) The actual emission reduction is reasonable (marginally lower) while comparing with the expected emission reductions for the current monitoring period.</p> <p>(d) The ER values are verifiable from the monthly statements, invoices etc. Also, the meters details and test certificates are verified to ensure all monitoring requirements of the project activity.</p> <p>(e) Verifier has reviewed the registered PCN including the monitoring plan, the applied monitoring methodology, relevant decisions from UCR.</p>
--	--

## Application and selection of methodologies and standardized baselines:

### a. Application of methodology and standardized baselines:

<b>Means of Project Verification</b>	The verifier was able to confirm that the monitoring plan contained in registered PCN and MR is in accordance with the approved methodology applied for the project activity i.e., AMS-I. D: “Grid connected renewable electricity generation”, version 18.
<b>Findings</b>	Nil
<b>Conclusion</b>	MR complies with the monitoring requirement of the applied approved methodology AMS-I. D: “Grid-connected electricity generation from renewable sources” (version 18) in the context of the project activity.

### b. Clarification on applicability of methodology, tool and/or standardized baseline:

<b>Means of Project Verification</b>	N/A
--------------------------------------	-----

### c. Project boundary, sources and GHGs:

<b>Means of Project Verification</b>	Project boundary is in line with the applied methodology, and the sources of GHGs etc.
<b>Findings</b>	Nil
<b>Conclusion</b>	Project boundary is in line with the applied methodology.

#### d. Baseline scenario:

<b>Means of Project Verification</b>	The project activity is installation of a greenfield Power plant, with a capacity of 15 MW, the PO has identified the plausible baseline scenario in accordance with applied simplified baseline and monitoring methodology AMS-I. D Version 18as, “Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants.
<b>Findings</b>	Nil
<b>Conclusion</b>	The identification (assumptions and data used) of baseline scenario to the project has been correctly applied and is in accordance with applied methodology and justified, deemed reasonable and is based on objective evidences in context to the project activity.

#### e. Estimation of emission reductions or net anthropogenic removal:

<b>Means of Project Verification</b>	<p>According to the approved methodology AMS-I. D Version 18, emission reductions are calculated as follows:</p> $ER_y = BE_y - PE_y - LE_y$ <p>Where:</p> <ul style="list-style-type: none"> <li><math>ER_y</math> = Emission reductions in year y (tCO<sub>2</sub>/y)</li> <li><math>BE_y</math> = Baseline Emissions in year y (t CO<sub>2</sub>/y)</li> <li><math>PE_y</math> = Project emissions in year y (tCO<sub>2</sub>/y)</li> <li><math>LE_y</math> = Leakage emissions in year y (tCO<sub>2</sub>/y)</li> </ul> <p>As per para 19 of the approved consolidated methodology AMS-I. D Version 18, the Baseline emissions include only CO<sub>2</sub> emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants.</p> <p>The baseline emissions are to be calculated as follows:</p> $BE_y = EG_{BL,y} \times EF_{grid,y}$ <p>Where:</p> <p><math>BE_y</math> = Baseline emissions in year y (tCO<sub>2</sub>/yr)</p>
--------------------------------------	---

	<p>EG BL,y= Net electricity supplied to the grid by the project activity (MWh/year)</p> <p>EF<sub>grid,y</sub>=UCR recommended emission factor of 0.9 tCO<sub>2</sub>/MWh has been considered.</p>
<b>Findings</b>	Nil
<b>Conclusion</b>	<p>It is confirmed by the verifier that the CoU against all referenced data sources and the requirements of applied methodology that:</p> <ul style="list-style-type: none"> <li>a) All data sources and assumptions used are listed and referenced in the PCN and are appropriate. Calculations are correct, applicable to the proposed UCR project activity and resulted in a conservative estimation of the emission reductions;</li> <li>b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PCN;</li> <li>c) All values used in the PCN are considered reasonable in the context of the proposed UCR project activity;</li> <li>d) The baseline methodology has been applied correctly to calculate project emissions, baseline emission, leakage emission and emission reductions.</li> </ul> <p>All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PCN and annexure.</p>

## f. Monitoring Report

<b>Means of Project Verification</b>	Verifier checked the monitoring report with “Instructions for filling out the monitoring report form” mentioned as attachment to Monitoring report form.
<b>Findings</b>	Finding was raised related to consistency in ER values.
<b>Conclusion</b>	Verifier confirms that final monitoring report is completed using the latest valid version of the applicable monitoring report form, information are consistent, correct and as per the requirement of the MR template.

## g. Start date, crediting period and duration

<b>Means of Project Verification</b>	Start date of crediting period is in line with the registered PCN.
<b>Findings</b>	Finding was raised related to the commissioning of the project and clarified by PP satisfactorily.
<b>Conclusion</b>	Verifier confirms that final monitoring report states the correct crediting period and it is in line with the PCN on the UCR web and also commissioning certificate provided.

## h. Positive Environmental impacts

<b>Means of Project Verification</b>	<p>Being the Biomass Power Project, there is no negative impact envisaged by the project activity. As per ‘Central Pollution Control Board (Ministry of Environment &amp; Forests, Govt. of India, (07/03/2016)’, it has been declared that biomass-based power project activity falls under the “Green category”. Green Category projects/industries do not require any Environmental Clearance such as ‘Consent to Operate’ from PCB as such project does not lead to any negative environmental impacts. Additionally, as per Indian Regulation, Environmental and Social Impact Assessment is not required for biomass-based Projects.</p> <p>This information has been addressed under the PCN under section A.1. Also, PP has addressed some of the sustainable development attributes and also it has been verified that at CDM PDD level Stakeholders Consultation meeting was conducted and no negative impact is foreseen by the stakeholders.</p>
--------------------------------------	--

	<p>However, the verification team is able to verify and confirm that the project is resulting in a net carbon positive emission reduction (COUs) and same has been transparently reported in the submitted MR supported with the ER spreadsheet. The calculation is verified with the respective data sets.</p> <p>The verifier has reviewed the emission reduction (ER) spread sheet and checked all the formulae and verified them to be correct and in line with the monitoring plan of the registered PCN and the applied monitoring methodology. All the monitored parameters are described in MR. All the ex-ante parameters which are used in the calculation of emission reduction are presented in in MR transparently. It is confirmed that all the ex-ante parameters have been correctly used in the emission reduction calculation.</p> <p>Baseline emissions:  <math>BE_y = EG_{BL,y} \times EF_{grid,y}</math>  <math>BE_y = 843,929tCO_2e</math></p> <p><b>Project Emissions:</b>  As per para 39AMS-I. Dversion 18, since the project activity is a biomass power project, project emission for renewable energy plant is nil.</p> <p><b>Thus, <math>PE_y = 0</math>.</b></p> <p><b>Leakage:</b>  As per paragraph 22 of AMS-I. Dversion-18; 'No other leakage emissions are considered.</p> <p><b>Hence, <math>LE_y = 0</math></b></p> <p><b>The final net ER value considered for claim for the current monitoring period after applying the rounded down function on each vantage/year based on the conservative grounds = 843,929tCO<sub>2</sub>e(i.e., final considered value is 843,929CoUs, which is conservative)</b></p>
<b>Findings</b>	Finding was raised related to the incorrect value in the ER sheet, which was rectified by PP satisfactorily.
<b>Conclusion</b>	The project does not have any negative impact and has resulted in a net carbon positive emission reduction (COUs) during the current monitoring period and the same has been transparently reported in the submitted



	MR supported with the ER spreadsheet.
--	---------------------------------------

### i. Project Owner- Identification and communication

<b>Means of Project Verification</b>	PO has declared that the project is not currently registered or availed carbon credits in other GHG programs. Thus, emission reductions generated by project will be solely claimed by PO and PO has the right of use, which is acceptable. Also, the verification team has verified that the Net GHG emission reductions or removals generated by this project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions as the host country. UCR is a voluntary platform and CoUs are not under any compliance requirement or nor does it have any binding limits.
<b>Findings</b>	Nil
<b>Conclusion</b>	PO will not claim any other the environmental/carbon credits under any other GHG emission reduction scheme for the crediting period under UCR and PO has provided declaration on the same during the validation. Hence, there is no possibility of double counting.

### j. Positive Social Impact

<b>Means of Project Verification</b>	Not reported by PO. However, during the verification process CSR related activities were discussed, supporting documents were reviewed and found positive social impact caused by the PO.
--------------------------------------	--

### k. Sustainable development aspects (if any)

<b>Means of Project Verification</b>	Not reported by PO. However, during the verification process CSR related activities were discussed, supporting documents were reviewed and found positive social impact caused by the PO.
--------------------------------------	--

### D.3. Internal quality control

Following the completion of the assessment process and a recommendation by the verifier provided after undertaking all due diligence. Verifier has experience of more than 300 GHG audits under various sectors and having more than 15 years of experience explicitly in GHG auditing. Therefore, it can be confirmed that all standard auditing techniques applied to complete the verification task, and it's the responsibility of verifier that the reported COUs are calculated in an adequate manner by compiling all the requirements of methodology in conjunction with UCR standard.

### D.4. Project Verification opinion

As an accredited auditor, I would like to express an independent GHG verification opinion on the GHG emissions calculation and the overall reporting of the GHG emission reductions from the project for the verified monitoring period based on the required project guidance and compliance to the applied methodology. Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, verifier planned and performed work to obtain the information and explanations that we considered necessary, to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

GCEES hereby confirms the following;

**Reporting period** : From 01/01/2014 to 30/11/2022<sup>\*</sup>

**Verified emission in the above reporting period** :

Details	Value	Unit
Total baseline emissions (BE)	843,929	tCO <sub>2</sub> e
Total project emission (PE)	0	tCO <sub>2</sub> e
Leakage emission (LE)	0	tCO <sub>2</sub> e
Total net ERs for the entire period	843,929	tCO <sub>2</sub> e (rounded down)

#### Vantage Wise Breakup of COUs

Year	Unit	Value
2014	tCO <sub>2</sub> e (CoUs)	81,163
2015	tCO <sub>2</sub> e (CoUs)	91,010
2016	tCO <sub>2</sub> e (CoUs)	98,198
2017	tCO <sub>2</sub> e (CoUs)	95,336
2018	tCO <sub>2</sub> e (CoUs)	96,798
2019	tCO <sub>2</sub> e (CoUs)	101,861
2020	tCO <sub>2</sub> e (CoUs)	100,630
2021	tCO <sub>2</sub> e (CoUs)	101,560
2022 <sup>*</sup>	tCO <sub>2</sub> e (CoUs)	77,373
<b>Total</b>	<b>tCO<sub>2</sub>e (CoUs)</b>	<b>843,929</b>

## APPENDIX A:

### Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM EB	CDM Executive Board
CL	Clarification Request
CO <sub>2</sub> e	Carbon dioxide equivalent
COU	Carbon Offset Units
DISCOM	Distribution Company
DNA	Designated National Authority
DG	Diesel Generator
DOE	Designated Operational Entity
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
GHGs	Greenhouse Gas(es)
JMR	Joint Meter Reading
kWh	Kilo Watt Hour
LE	Leakage Emissions
MR	Monitoring Report
MP	Monitoring Plan
MWh	Mega Watt Hour
PE	Project Emissions
PCN	Project Concept Note
PS	Project Standard
PO	Project Owner
QA/QC	Quality Assurance/Quality Control
T	Tonnes

## APPENDIX B:

### Document reviewed or referenced

No.	Author	Title	References to the document	Remark
1	PO	Initial MR	Version 01, 25/11/2022	Ok
2	PO	Final MR	Version 02, 24/12/2022	Ok
3	PO	ER sheet	Version 01, 25/11/2022	Ok
4	PO	ER sheet	Version 02, 22/12/2022	Ok
5	PO	Registered PCN	Version 01, 15/10/2022, UCR Website	Ok
6	PO	Commissioning Certificates	Corresponding to Project Technology equipment	Ok
7	PO	Power Purchase Agreement & Copy of the amendment letter	Corresponding to Project.	Ok
8	PO	Monthly Energy Statements and Invoices	Corresponding to Project activity, for the entire monitoring period	Ok
9	PO	Meter details & calibration	Corresponding to Project, for the entire monitoring period	Ok
10	PO	Training Records	Corresponding to Project activity, for the entire monitoring period	Ok
11	PO	Declaration on Double-accounting	Corresponding to Project activity, for the entire monitoring period, dated 02/01/2023.	Ok

## APPENDIX C:

### Competence of team members and technical reviewers

<b>Vivek Kumar Ahirwar</b>	<p>Vivek Kumar Ahirwar is a BEE-Certified Energy Auditor by Govt of India with over ten years of relevant experience in energy efficiency, energy audit, thermal and electrical energy generation technology from renewable source and energy conservation in energy intensive industries, designated consumers and commercial buildings, implementation of energy conservation building codes, research, process and green building projects. He is a certified lead auditor for ISO 14001 EMS and 14064. He has experience under various categories of projects stating from renewable to waste to supercritical projects and WCD. He has successfully audited more than 100 GHG (CDM/VCS/GS) projects and audits in different states across the India. He has done Master in Technology (Energy Management) from a premier institute, School of Energy &amp; Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from Govt. Engineering college, Rewa, RGPV, India.</p> <p>In this current UCR verification, Vivek is the lead auditor and team leader, managed end to end to assessment as per UCR requirements,</p>
<b>RavikantSoni</b>	<p>Ravi Kant Soni is a certified lead auditor for Lead Auditor ISO 14001:2004&amp;Lead Auditor ISO 14064:2006 GHG Inventory and verification. He has more than 10 years of work experience across Climate Change, Environmental Management &amp; Monitoring, Health &amp; Safety Management, and Statutory Compliance. He was involved in more than 100 CDM validation and verifications activities and Gold Standard, VER projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1 technical area 1.2.,3.1. He has done Master in Technology (Energy Management) from a premier institute, School of Energy &amp; Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from M.I.T.S Gwalior Jiwaji University Gwalior, India.</p> <p>In this current UCR verification, Ravikant is acting as the Technical Reviewer and conducted required review of the assessment as per UCR requirements,</p>

## **APPENDIX D:**

### **Clarification request, corrective action request and forward action request**

Table 1. CLs & CARs from this Project Verification

## APPENDIX E:

Energy Meter Details applicable for the project activity verified during the verification, each calibration is valid for 5 years as per the ‘CEA’ which is the central regulator in India for power sector. The available meter test/calibration reports were reviewed across the monitoring period and found satisfactory. The last applicable meter calibration details are referred under the table below to confirm the overall adherence to the registered PCN and monitoring provisions. The summary is submitted below:

S no	Installation date	Date Replacement	Meter Location	Make	Meter service no	Accuracy Class	condition
1	Since Commissioning	IN SERVICE	GENERATION	L&T	12023157	0.5S	Functional
2	12-Apr-17	IN SERVICE	EXPORT BILLING CSEB (ABT Check METER )	secure	Y0319673	0.2S	Functional
3	12-Apr-17	30-Jun-21	EXPORT BILLING CSEB ( ABT MAIN METER)	secure	Y0319672	0.2S	N/A
4	21-Jun-21	IN SERVICE		secure	CSE52157	0.2S	Functional

---

**History of Documents**

Version	Date	Prepared By	Approved By
1.1	27/06/2022	AyushiGarg	Vivek Ahirwar
1.0	14/05/2022	AyushiGarg	Vivek Ahirwar

**Report is issued for further submission at UCR Registry:**




---

**Vivek Kumar Ahirwar**  
**Director, GCEES**  
**24, April, 2023 / Indore, India.**