Verification Report

UCR ID: 435

Prepared by

Naturelink Solutions Pvt. Ltd.

Title	**1.25 MW Wind Power Project activity by Naroda Enviro Projects Ltd**
Project Owner	**M/s. Naroda Enviro Project Ltd**
Project Location	**Village-Varvada, Taluka-Dwarka, District Jamnagar, State Gujarat, Country India** **Coordinates: 22°18'02.6"N 68°59'26.3"E**
Date	**07/11/2024**

COVER PAGE **Project Verification Report Form (VR)**	
BASIC INFORMATION	
Name of approved UCR Project Verifier / Reference No.	Naturelink Solutions Pvt. Ltd.
Type of Accreditation	☐ CDM Accreditation ☐ ISO 14065 Accreditation ☒ UCR Approved Verifier
Approved UCR Scopes and GHG Sectoral scopes for Project Verification	Sectoral Scope: 01 Energy Industries
Validity of UCR approval of Verifier	May - 2022 onwards
Completion date of this VR	07/11/2024
Title of the project activity	1.25 MW Wind Power Project activity by Naroda Enviro Projects Ltd
Project reference no. (as provided by UCR Program)	435
Name of Entity requesting verification service	M/s. Green Shift Climate Solutions (Aggregator) M/s. Naroda Enviro Projects Ltd (Project owner)
Contact details of the representative of the Entity, requesting verification service (Focal Point assigned for all communications)	Mr. Dilesh Bhatt (Green Shift Climate Solutions.) greenshiftclimatesolutions@gmail.com M/s. Naroda Enviro Projects Ltd
Country where project is located	India
Applied methodologies	AMS-I.D: Grid connected renewable electricity generation– Version 18.0
Sectoral Scope(s):	01 Energy industries (Renewable/Non-renewable Sources)
Project Verification Criteria: Mandatory requirements to be assessed	☒ UCR Verification Standard ☒ Applicable Approved Methodology

	☐ Applicable Legal requirements /rules of the host country ☒ Eligibility of the Project Type ☒ Start date of the Project activity ☒ Meet applicability conditions in the applied methodology ☒ Credible Baseline ☒ Do No Harm Test ☒ Emission Reduction calculations ☒ Monitoring Report ☒ No GHG Double Counting ☐ Others (please mention below)
Project Verification Criteria: Optional requirements to be assessed	☒ Environmental Safeguards Standard and do-no-harm criteria ☐ Social Safeguards Standard do-no-harm criteria
Project Verifier's Confirmation: The *UCR Project Verifier* has verified the UCR project activity and therefore confirms the following:	The UCR-approved verifier Naturelink Solution Pvt. Ltd., verifies the following with respect to the UCR Project Activity "1.25 MW Wind Power Project activity by Naroda Enviro Projects Ltd" ☒ The project aggregator has correctly described the project activity in the Project Concept Note/7/ including the applicability of the approved methodology AMS-I.D/4/ 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. ☒ The project activity is likely to generate GHG emission reductions amounting to the estimated 18841 tCO_2e, as indicated in the monitoring report V.3 /20/, which are additional to the reductions that are likely to occur in absence of the Project Activity and complies with all applicable UCR rules, including ISO 14064-2 and ISO 14064-3.

	☒ The project activity is not likely to cause any net-harm to the environment and/or society ☒The project activity complies with all the applicable UCR rules and therefore recommends UCR Program to register the Project activity with above mentioned labels.
Project Verification Report, reference number and date of approval	Verification Report UCR Reference no.: NSPL/VR/2024/05/UCR/12 UCR ID: 435 Version: 1.0 Date: 07/11/2024
Name of the authorised personnel of UCR Project Verifier and his/her signature with date	 Mr. Shyam Mandliya Lead Assessor Naturelink Solution Pvt. Ltd. Date: 07/11/2024

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1. Project Verification Report

1.1 Executive Summary

The verification work has been contracted by project aggregator M/s. Creduce Technologies Pvt Ltd (aggregator) and M/s. Naroda Enviro Projects Ltd (Owner) to perform an independent verification of its UCR project titled **"1.25 MW Wind Power Project activity by Naroda Enviro Projects Ltd" UCR approved project ID:435**, to establish the number of CoUs generated by the project over the crediting period from 01/01/2013 to 31/12/2023 (both days included).

Verification for the period: 01/01/2013 to 31/12/2023

In our opinion, the total GHG emission reductions over the crediting/verification period stated in the Monitoring Report (MR) V.2 /17/, submitted are found to be correct and in line with the UCR guidelines/2/. The GHG emission reductions were calculated on the basis of UCR guideline/2/ which draws reference from, the standard baseline, AMS-I. D: Grid connected renewable electricity generation– Version 18.0/4/. The verification was done remotely by way of video calls for site inspection of the plant and submission of documents for verification through emails.

It is certified that the emission reductions from the "1.25 MW Wind Power Project activity by Naroda Enviro Projects Ltd (UCR ID – 435) for the period 01/01/2013 to 31/12/2023 amounts to **18841** CoUs (**18841 tCO_2e**).

Objective

The objective of this verification is to have an independent third-party assessment of whether the project activity conforms to the qualification criteria set out in the UCR Program Manual/1/, UCR CoU Standard/2/ and UCR verification standard/3/ to attain real, measurable, accurate and permanent emission reductions.

Scope

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

1. To verify the project implementation and operation with respect to the registered PCN/7/.
2. To verify the implemented monitoring plan with the registered PCN/7/ applied baseline and monitoring methodology/2/.
3. To verify that the actual monitoring systems and procedures follow the monitoring plan.
4. To evaluate the GHG emission reduction data and express a conclusion whether the reported GHG emission reduction data is free from material misstatement
5. To verify that reported GHG emission data is sufficiently supported by evidence.
6. Agreement stating assurance to avoid double accounting for the project to be verified, along with required proof.

The project is assessed against the requirements of the UCR Program Manual/1/, UCR CoU Standard/2/ and UCR verification standard/3/, ISO 14064-2.

Due professional care has been exercised and ethical conduct has been followed by the assessment team during the verification process. The verification report is a fair presentation of the verification activity. The validation of the project is not part of the present assignment and project is deemed validated post-registration by UCR.

1.2 Description of the Project

The project consists of WTG with a capacity of 1.25 MW which was commissioned by the Gujarat Energy Development Agency (GEDA) in the state of Gujarat. M/s. Naroda Enviro Project Ltd is the owner of this project. The project generates clean energy by utilizing the kinetic energy of the wind.

The project involves WTG installations, which is manufactured and supplied by Suzlon Energy with an installed capacity of 1.25 MW. The connectivity of the WTG is to a Central Monitoring Station (CMS) through a high-speed WLAN modem or fibre optic cable which helps in providing real-time status of the turbine at CMS with easy GUI (Graphical User Interface) and the ability to monitor the functioning of the turbine from CMS. The life of the WTG is 20 years as per manufacturer specifications.

Technical details for the turbine with a capacity of 1.25 MW manufactured by Suzlon Energy are as follows:

Specification	Value
Turbine Model	Suzlon S-66 Mark-II
Rated Power	1,250 kW
Rotor diameter	66 m
Hub Height	74.5 m
Turbine Type	Direct Driven, Horizontal axis wind turbine.
Power regulation	Independent pitch system for each blade
Cut in wind speed	4 m/s
Rated wind speed	12 m/s
Cutout Wind Speed	20 m/s
Extreme wind speed	52.5 m/s
Rated Rotational speed	20.62 rpm
Operating range rotor speed	12-20 rpm
Orientation	Upwind
No of Blades	3 Blades
Blade Material	Epoxy bonded fiber glass
Gear box type	One planetary stage and two helical stages
Generator type	Dual speed induction generator (asynchronous)
Braking	Aerodynamic braking
Output Voltage	690 V AC (phase to phase)
Yaw System	Electric asynchronous motor, electric motor brake (spring applied), 5 stage planetary gear box with output pinion
Tower	72 m

As mentioned in the monitoring report Ver. 2.0/17/ and emission reduction calculation sheet/21/ submitted for verification, the project replaces anthropogenic emissions of greenhouse gases (GHGs) estimated to be 18841 tCO_2e for the verification period, there on displacing 20934.21 MWh amount of electricity from the generation of fossil-fuel based power plants connected to the Indian electricity grid.

The project activity uses kinetic energy of wind to generate electricity by installation of the two wind turbine generators having a capacity of 1.25 MW. The project is a small-scale activity. The methodology applied in the monitoring report is verified against the AMS-I. D: Grid connected renewable electricity generation - Version 18.0/4/ total emission reductions (ERs) achieved through the project activity during the monitoring period is summarised below:

Summary of the Project Activity and ERs Generated for the Monitoring Period	
Project start date	25/01/2012
Start date of this Monitoring Period	01/01/2013
Carbon credits claimed up to	31/12/2023
Total ERs generated (tCO_2e)	18841
Leakage Emission	0
Project Emission	0

1.3 Project Verification team, technical reviewer and approver:

Project verification team

Sr. No.	Role	Last name	First name	Affiliation	Involvement in		
					Doc review	Remote inspection	Interviews
1.	Lead Verifier & Technical Expert	Mandliya	Shyam	Naturelink Solutions Pvt. Ltd.	Yes	Yes	Yes

2 Verification Process

2.1.1 Desk/document review

The desk review was conducted by the verification team that included:

- A review of data and information presented to assess its completeness
- A review of the initial PCN/7/, MR Version 1.0/8/, MR Version 2.0/17/, emission reduction calculation sheet/21/, Applied Methodology - AMS.I.D/4/.
- A cross-check between information provided in the monitoring report /8/17/ and data from other sources such as certificate of share of electricity generated by wind farm/18/, Commissioning Certificates/13/ or similar data sources;
- A review of calculations and assumptions made in determining the GHG data and emission reductions calculation/10/;

The list of submitted documents is available in a subsequent section of this verification report under the appendix - 2 “Document reviewed or referenced”.

2.1.2 Remote Inspection

As per UCR Verification Standard Version 2.0/3/, the verification team conducted remote inspection of project activity on 11/10/2024 as mentioned in the below table.

Date of on-site inspection:	11/10/2024			
No.	**Activity performed On-Site**	**Site location**	**Date**	**Project Personnel**
1.	Opening meeting	Project location	11/10/2024	Mr. Dilesh Bhatt Mr. Satish Patel
2.	Visit to all installation and document review	Project location	11/10/2024	Mr. Kripal Baradiya
3.	Closing meeting	Project location	11/10/2024	Mr. Dilesh Bhatt Mr. Satish Patel

The following parameters were assessed but not limited to:

- An assessment of the implementation and operation of the registered project activity as per the registered PCN/7/;
- A review of information flows for generating, aggregating, and reporting the monitoring parameters;
- Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PCN/7/ and MR /8/17/;

- A cross-check of the monitoring equipment including calibration reports and observations of monitoring practices against the requirements of the PCN/7/ and MR Version 1.0/8/, MR Version 2.0/17/ and the selected methodology/4/;
- An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.1.3 Interviews

No.	Interview			Date	Subject
	Last name	First name	Affiliation		
1.	Patel	Satish	CEO – Naroda Enviro Projects Ltd.	11/10/2024	Legal ownership of the project, Implementation of the project, start date and crediting period, Double counting of the carbon credits, Monitoring Plan
2.	Baradiya	Kripal	Mr.– O.& M. Incharge	11/10/2024	Procedure of the generation and export of the electricity, details of energy meter and recording of the electricity generation, site installations details, calibration of energy meter
3.	Bhatt	Dilesh	Partner – Green Shift Climate Solutions	11/10/2024	Project Overview, PCN, Monitoring Report, Methodology, eligibility criteria, Baseline emissions, Emission Reduction Calculation

2.1.4 Clarification request (CLs), corrective action request (CARs) and forward action request (FARs) raised

Areas of Project Verification findings	No. of CL	No. of CAR	No. of FAR
Green House Gas (GHG)			
Identification and Eligibility of project type	NIL	NIL	NIL
General description of project activity	NIL	01	NIL
Application and selection of methodologies and standardized baselines	--	--	--
• Application of methodologies and standardized baselines	NIL	01	NIL
• Deviation from methodology and/or methodological tool	NIL	NIL	NIL
• Clarification on applicability of methodology, tool and/or standardized baseline	NIL	NIL	NIL
• Project boundary, sources and GHGs	NIL	NIL	NIL
• Baseline scenario	NIL	NIL	NIL
• Estimation of emission reductions or net anthropogenic removals	NIL	NIL	NIL
• Monitoring Report	01	NIL	NIL
Start date, crediting period and duration	NIL	NIL	NIL
Environmental impacts	NIL	NIL	NIL
Project Owner- Identification and communication	NIL	NIL	NIL
Others (please specify)	01	NIL	NIL
Total	02	02	NIL

3 Project Verification findings

3.1 Identification and eligibility of project type

Means of Project Verification	The project is eligible as per UCR General project eligibility criteria and guidance Version 6.0/2/ which is acceptable since the project has not been registered under any GHG program and the operations started since 25/01/2012 which is the earliest commissioning date of the wind turbine generator in the project activity. The commissioning document of the wind turbine has been verified in this regard. Prior to the commencement of the project activity, the project owner got approval for the installation and operation of wind turbine generator from State Energy Development Agency (GEDA) in the district of Jamnagar, Gujarat and PO have signed wheeling agreement with Uttar Gujarat Vij Company Ltd (UGVCL). The project also delivers real, measurable and additional emission reduction of 18841 tCO_2e over the crediting period. Project applies an approved CDM monitoring and baseline methodology AMS-I. D: Grid connected renewable electricity generation - Version 18.0./4/
Findings	No finding was raised
Conclusion	The project is eligible as per the requirements of the UCR General project eligibility criteria and guidance Version 6.0/2/. Further project verification team cross checked the other GHG programmes like Clean Development Mechanism (CDM) Registry, VERRA Registry, Gold Standard (GS) Registry for the information regarding the consistency of the title of the project activity, GPS coordinates, Legal Ownership of the Project activity and confirmed that the project was not submitted or registered under any other GHG programmes and non-voluntary non-GHG Programs.

3.2 General description of project activity

Means of Project Verification	The proposed project activity with title under UCR “1.25 MW Wind Power Project activity by Naroda Enviro Projects Ltd” in Gujarat is a grid-connected renewable power generation activity which incorporates installation and operation of one Wind Turbine Generator (WTG) having capacity 1.25 MW, manufactured and supplied by Suzlon Energy in the Gujarat State in India. The project is an operational activity with continuous reduction of GHG, currently being applied under “Universal Carbon Registry” (UCR).

	The project activity aims to harness the kinetic energy of wind (a renewable source) to generate electricity. Wheeling agreement/15/ is signed between Uttar Gujarat Vij Company Ltd (UGVCL) and PP. The project activity has been helping in greenhouse gas (GHG) emission reduction by using renewable resources (wind energy) for generating power which otherwise would have been generated using grid mix power plants, which is dominated by fossil fuel based thermal powerplants. Currently, the NEWNE grid is connected to large numbers of fossil fuel-based power plants. The purpose of the project activity is to utilize clean technology that harnesses wind kinetic energy to generate electricity which would be used to meet the electrical demand of PO. The Location details has been verified during the remote inspection and geo coordinates verified through google earth/Maps. The project owner declared in the PCN/7/ the lifetime of the project activity is 20 Years as guaranteed by the suppliers of wind turbine and same has been verified in the technical specification/11//12/ provided by the project owner.
Findings	CAR-1 was raised
Conclusion	The description of the project activity is verified to be true based on the review of PCN/7/, MR V.1/8/ V.2/17/ and Commissioning Certificate/13/of wind power plant components.

3.3 Application and selection of methodologies and standardized baselines

3.3.1 Application of methodology and standardized baselines

Means of Project Verification	The project activity applied AMS-I. D: Grid connected renewable electricity generation– Version 18.0/4/ falls into the small-scale category as per CDM methodology. “The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise, been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid” which is as per the project activity and clearly mentioned in PCN/7/ and MR /8/17/.
Findings	CAR-2 was raised
Conclusion	The methodology applied is appropriately meeting the requirements of UCR General project eligibility criteria and guidance/2/, standardized baseline. The methodology version is correct and valid. The referenced methodology is applicable to project activity.

3.3.2 Clarification on applicability of methodology, tool, and/or standardized baseline

Means of Project Verification	Applicability as per AMS-I. D version 18.0	Verifier assessment
	1. This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass: a. Supplying electricity to a national or a regional grid; or b. Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	The project activity is a renewable energy project i.e., a wind power project which falls under applicability criteria option 1 b) the project owner has done a wheeling agreement/15/ with UGVCL to supply the electricity generated by wind power plant.
	2. This methodology is applicable to project activities that: a. Install a greenfield plant; b. Involve a capacity addition in (an) existing plant(s); c. Involve a retrofit of (an) existing plant(s); d. Involve a rehabilitation of (an) existing plant(s)/ unit(s); or e. Involve a replacement of (an) existing plant(s).	The project is green field plant and involves installation and generation of electricity from 1.25 MW capacity of Wind turbine generator connected to the Indian national grid and it has verified with the commissioning certificates/13/. Hence, applied methodology can be applied to project activity
	3. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: a. The project activity is implemented in an existing reservoir with no change in the volume of reservoir; b. The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m2. c. The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project	The project activity involves the installation of 1.25 MW WTG; hence, this criterion is not applicable.

	emissions section, is grated than 4 W/m^2	
	4. If the new unit has both renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	The proposed project activity is 1.25 MW Wind Power Project activity by Naroda Enviro Projects Ltd and it has been verified with the commissioning certificates/13/.
	5. Combined heat and power (co-generation) systems are not eligible under this category.	The project is a wind power project and thus, the criterion is not applicable to this project activity
	6. In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct6 from the existing units.	The proposed project is a greenfield 1.25 MW wind power project, i.e., the only component is a renewable power project below 15 MW, thus the criterion is not applicable to this project activity
	7. In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	The proposed project is a greenfield 1.25 MW wind power project, i.e., the only component is a renewable power project below 15 MW, thus the criterion is not applicable to this project activity
	8. In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid, then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as “AMS-I.C.: Thermal energy production with or without electricity” shall be explored.	The proposed project is a greenfield 1.25 MW wind power project; hence, this criterion is not applicable to this project activity.

	9. In case biomass is sourced from dedicate plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	No biomass is involved, the project is only a wind power project and thus the criterion is not applicable to this project activity.
Findings	No finding was raised	
Conclusion	The verification team confirms that all the applicability criteria set by the applied CDM methodology/10/ and its eligible tools are met. The relevant information against those criteria is also included in the PCN/7/ and MR Ver. 2.0/17/. The selected CDM methodology for the project activity is applicable.	

3.3.3 Project boundary, sources and GHGs

Means of Project Verification

As per the applied methodology AMS-I. D version 18.0/4/, the spatial extent of the project boundary includes industrial, commercial facilities consuming energy generated by the system.

The project verification team conducted desk review of the implemented project to confirm the appropriateness of the project boundary identified and GHG sources required by the methodology have been included within the project boundary.

The project location is clearly depicted with the help of a pictorial depiction in section A.3. of the PCN/7/ and duly verified by the project verification team via geographical coordinates, commissioning certificate/13/ of the project activity & wheeling agreement/15/.

Source		Gas	Included?	Justification/Explanation
Baseline	Grid-connected electricity generation	CO_2	Yes	Main emission source
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source
		Other	No	No other GHG emissions were emitted from the project
Project	Greenfield Electric Power project Activity	CO_2	No	No CO_2 emissions are emitted from the project
		CH_4	No	Project activity does not emit CH_4
		N_2O	No	Project activity does not emit N_2O
		Other	No	No other emissions are emitted from the project

Findings	No finding was raised
Conclusion	The project verification team was able to assess that complete information regarding the project boundary has been provided in PCN/7/ and MR /8/17/ and could be assured from the single line diagram/19/, commissioning certificate/13/, geographical coordinates and wheeling agreement/15/ The components of the project boundary mentioned in the section B.4 of PCN/7/ were verified against the para 18 of the applied methodology. The project verification team conducted desk review of the implemented project to confirm the appropriateness of the project boundary identified and GHG sources required by the methodology have been included within the project boundary. The verification team has confirmed that the project boundary has included all the relevant source of GHG emission from the project activity.

3.3.4 Baseline scenario

Means of Project Verification	As per the approved consolidated methodology AMS-I.D. Version 18/4/, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: **"The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid".** The project activity involves setting up of a new WTG to harness the wind energy and use it for captive consumption i.e., the Indian grid system through wheeling and banking arrangement. In the absence of the project activity, the equivalent amount of power would have been generated by the operation of grid-connected fossil fuel-based power plants and by the addition of new fossil fuel-based generation sources into the grid. The power produced from other conventional sources which are predominantly fossil fuel based. Hence, the baseline for the project activity is the equivalent amount of power produced at the Indian grid. A "grid emission factor" refers to a CO_2 emission factor (tCO_2/MWh) that will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO_2/MWh for the 2013 - 2020 years as a conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2013-2023, the combined margin emission factor calculated from the CEA database/5/ in India results in higher emissions than the default value. Hence, the same emission factor has been considered to calculate the emission reduction under a conservative approach.
Findings	No findings raised.

Conclusion	The project verification team concluded that the identified baseline scenario reasonably represents what would occur in the absence of the project activity. The calculated baseline emission for each vintage year of crediting period is rounded down as per UCR CoU verification standard /3/.

3.3.5 Estimation of emission reductions or net anthropogenic removal

Means of Project Verification	The project verification team checked whether the equations and parameters used to calculate GHG emission reductions or net anthropogenic GHG removals for PCN/7/ and MR /8/17/ is in accordance with applied methodology. Project Verification team checked section B.5 and C.5.1 of the PCN/7/ & MR /8/17/ respectively to confirm whether all formulae to calculate baseline emissions, project emission and leakage have been applied in line with the underlying methodology. The UCR recommends an emission factor of 0.9 tCO_2/MWh for the 2013 - 2020 years as a conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2013-2023, the combined margin emission factor calculated from the CEA database/5/ in India results in higher emissions than the default value. Hence, the same emission factor has been considered to calculate the emission reduction under a conservative approach. The emission reduction calculation has been done as per the CDM SSC methodology AMS-I. D, Version 18.0/4/. $BE_y = EG_{BLy} X EF_{CO2,y}$ Where, BE_y = Baseline Emissions in year y; tCO_2 EG_{BLy}= Quantity of net electricity displaced as a result of the implementation of the CDM project activity in year y (MWh) $EF_{CO2,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year y. Project emissions: As per paragraph 25 of the applied methodology, For most renewable energy project activities, $PE_y = 0$. Since wind power is a GHG emission free source of energy project emission considered as Zero for the project activity Leakage Emissions: As per the paragraph 29 of the applied methodology AMS-I.D Version 18.0/4/, there are no emissions related to leakage in this project. Emission reductions

As per Paragraph 30 of the applied methodology, emission reductions are calculated as follows

$ER_y = BE_y - PE_y - LE_y$

Where:

ER_y = Emission reductions in year y (tCO_2e/y)

BE_y = Baseline Emissions in year y ($t\ CO_2e/y$)

PE_y = Project emissions in year y ($t\ CO_2e/y$)

LE_y = Leakage emissions in year y ($t\ CO_2e/y$)

Year	Electricity generated (kWh)	Emission factor (tCO_2/MWh)	Total Emission reduction (tCO_2e)
2013	1861.14	0.9	1675
2014	1983.40	0.9	1785
2015	2054.22	0.9	1849
2016	2030.04	0.9	1827
2017	2047.62	0.9	1843
2018	1929.63	0.9	1737
2019	2009.71	0.9	1809
2020	1753.38	0.9	1578
2021	1792.45	0.9	1613
2022	1670.20	0.9	1503
2023	1802.44	0.9	1622
Total			18841

Findings

No findings were raised

Conclusion

The combined margin emission factor as per CEA database "CO_2 Baseline Database for the Indian Power Sector" current version 18, December 2022/5/ is 0.918 tCO_2/MWh which results into higher emission factor than the UCR recommended emission factor of 0.9 tCO_2/MWh; Hence for 2023 vintage UCR default emission factor remains conservative as per UCR General project eligibility criteria and guidance/2/.

Project Verification team confirm that the algorithms and formulae proposed to calculate project emissions, baseline emissions, leakage and emission reductions in the PCN/7/ and MR ver. 2.0/17/ is in Line with the requirements of the selected methodology AMS-I.D, version 18.0/4/

For emission reduction calculation, the assessment team confirms that

All assumptions and data used by the project participants are listed in the PCN/7/ and MR /8/17/ including their references and sources.

	All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PCN/7/ and MR /8/17/. The baseline methodology and the applicable tool(s) have been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions.

3.3.6 Monitoring Report

<table>
<tr><td>Means of Project Verification</td><td>The monitoring report /8/17/ submitted by the PP has been verified thoroughly and is in compliance with the applicable methodology and UCR General project eligibility criteria and guidance/2/ for the calculation of GHG emission reductions.

As per section B.2 of the MR /8/17/, this project has avoided 18841 tCO_2e emissions during this monitoring period.

The assessment team has reviewed all the parameters in the monitoring plan against the requirements of the applied methodology and confirmed that monitoring parameters are applied in line with the requirement of the methodology and relevant in the context of the program. The procedures have been reviewed by the assessment team through document review, interviews with the respective monitoring personnel and site assessment. Monitoring methodology, data management and calibration of the energy meter were also discussed with project owner.

Calibration of Energy meter is carried out by NABL Accredited DGVCL Hi-tech laboratory.
<table>
<tr><td>Sr. no.</td><td>Energy meter No.</td><td>Class</td><td>Calibration date</td></tr>
<tr><td>1.</td><td>GJU62588</td><td>0.2 S</td><td>09/04/2024</td></tr>
</table>
</td></tr>
<tr><td>Findings</td><td>CL 01 was raised</td></tr>
<tr><td>Conclusion</td><td>The project verification team confirms that,

The monitoring report /8/17/ is in compliance with the applicable methodology and UCR General project eligibility criteria and guidance/2/.

The monitoring parameters reported in PCN/7/ and MR Ver. 1.0/8/ & Ver. 2.0/17/ adequately represents the parameters relevant to emission reduction calculation.

The calibration reports/14/ ensures the accuracy of the data reported.

The number of CoUs generation is calculated based on accurately reported data. The calculation was done using an excel sheet where all the parameters were reported.</td></tr>
</table>

	UCR recommended emission factor for electricity generation is opted which is conservative. The monitoring report Version 1.0/8/ & Version 2.0/20/ meets the requirements of UCR project verification requirements. The Project has the capability to address SDG 7 Affordable and Clean Energy, SDG 8 Decent Work and Economic Growth and SDG 13 Climate Action.

3.4 Start date, crediting period and duration

Means of Project Verification	The Commissioning certificate/13/ of the installation of the project activity has been verified as per PCN/7/ and MR Ver. 1.0/8/ & Ver. 2.0/17/.
Findings	No findings raised.
Conclusion	The expected lifetime of the project activity is 20 years. Crediting period is from 01/01/2013 to 31/12/2023 which is appropriate as per UCR General project eligibility criteria and guidance/2/.

3.5 Environmental impacts and safeguard assessment

Means of Project Verification	As The guidelines on Environmental Impact Assessment have been published by Ministry of Environment, Forests and Climate Change (MoEF&CC), Government of India (GOI) under Environmental Impact Assessment notification 14/09/2006. Further amendments to the notification have been done, The Wind Power projects up to 25 MW are listed in white category, hence, No EIA required. The impact of the project activity on the environmental safeguards has been carried out. Out of all the safeguards no risks were identified to the environment due to the project implementation and operation The following have been indicated as positive impacts: **Environment Air -** CO_2 emissions: The project activity being renewable power generation avoids CO_2 emissions that would have occurred in baseline scenario due to the electricity generation in thermal power plants. **Environment - Natural Resources:** Replacing fossil fuels with renewable sources of energy. **Impacts identified as 'Harmless':** **Solid waste Pollution:** - Any Solid-waste if generated from the plant shall be discarded in accordance with host country regulation. The parameter is being monitored as 'Project Waste' and Proper mitigation action has been implemented for waste management.

	Land use: since the wind power plant does not require larger area, there is no significant damage to land. **Emission due to transportation of wind components**: The emissions associated with the transport of the modules are insignificant compare to manufacturing facilities. **Solid waste Pollution from end-of-life products equipment:** - Waste generated from the plant.
Findings	No findings raised.
Conclusion	The project activity displaces fossil fuel consumption and provides affordable and clean energy. The project has also avoided total 18841 tCO_2e, hence it has positive impact.

3.6 Project Owner- Identification and communication

Means of Project Verification	The information and contact details of the project owner has been appropriately incorporated in the PCN/7/ and MR Ver. 1.0/8/ & Ver. 2.0/17/ which was checked. The legal owner of the project activity has been identified through the commissioning certificates/13/ & Wheeling agreements/15/ issued by equipment suppliers.
Findings	No findings raised.
Conclusion	The project verification team confirms that the legal ownership of the project belongs to M/s. Naroda Enviro Projects Ltd

3.7 Positive Social Impact

Means of Project Verification	NA
Findings	--
Conclusion	Project has overall positive social impact.

3.8 Sustainable development aspects (if any)

Means of Project Verification	Not Applicable
Findings	--
Conclusion	--

3.9 Others (if any)

Means of Project Verification	The verification team has referred other GHG programs to avoid double counting of emission reductions.
Findings	CL 02 was raised.
Conclusion	It was verified that the project is has not applied for registration and issuance elsewhere with the Avoidance of double accounting agreement/9/ provided stating not taking benefits of double counting.

4 Internal quality control:

- Due professional care has been taken while reviewing the submitted document.
- There is no conflict of interest as the verifier has no other engagement with either the aggregator or project owner directly or indirectly.
- Verification team consists of experienced personnel.
- Technical review is performed by an independent person.

5 Project Verification opinion:

The project verification was conducted on the basis of UCR Program Manual/1/, UCR General project eligibility criteria and guidance/2/, UCR Verification standard /3/, AMS-I. D: Grid connected renewable electricity generation– Version 18.0/4/, Wheeling agreements/15/, Calibration Reports/14/, Commissioning Certificates/13/, Project Concept Note (PCN)/7/, Monitoring Report (MR) Version 1.0/8/ & Version 2.0/17/ and documents mentioned in Appendix-2.

Verification team raised 02 Nos. of Clarification Requests (CLs) and 02 Nos. of Corrective Actions Requests (CARs) and they were corrected, verified and closed satisfactorily.

It is hence certified with reasonable level of assurance that the emission reductions from the project 1.25 MW Wind Power Project activity by Naroda Enviro Projects Ltd By M/s Bhagwati Spherocast Pvt. Ltd (UCR ID – 435) for the period 01/01/2013 to 31/12/2023 amounts to **18841** CoUs (18841 tCO_2e) as per the UCR Verification standard /3/.

6 Competence of team members and technical reviewers

No.	Last name	First name	Role and Affiliation	Technical Competence
1.	Mandliya	Shyam	Team Leader and Technical Expert - NSPL	Mr. Shyam Mandliya has completed his masters in Chemical Engineering. He has expertise in environmental audits. He has performed environmental monitoring of different industries in Gujarat for air, water, and hazardous waste. He has also contributed to the community-based biogas project development.

Appendix 1: Abbreviations

Abbreviations	Full texts
UCR	Universal Carbon Registry
CPCB	Central Pollution Control Board
GERC	Gujarat Electricity Regulatory Commission
GEDA	Gujarat Energy Development Agency
UGVCL	Uttar Gujarat Vij Company Limited.
CEA	Central Electricity Authority
NSPL	Naturelink Solutions Private Limited
MR	Monitoring report
PCN	Project Concept Note
VR	Verification Report
VS	Verification Statement
DAA	Avoidance of Double Accounting Agreement
COD	Commercial Operation Date
PO	Project Owner
PA/ PP	Project Aggregator / Project Proponent
PPA	Power Purchase Agreement
ER	Emission Reduction
CoUs	Carbon offset Units
tCO_2e	Tons of Carbon Dioxide Equivalent
kWh	Kilo-Watt Hour
MWh	Mega-Watt Hour
kW	Kilo-Watt
MW	Mega-Watt
CDM	Clean Development Mechanism
SDG	Sustainable Development Goal
CAR	Corrective Action Request
CL	Clarification Request
FAR	Forward Action Request
GHG	Green House Gas

Appendix 2: Document reviewed or referenced

No.	Author	Title	References to the document	Provider
1	UCR	UCR Program Manual	Version 6.1, August 2024	UCR website
2	UCR	UCR General project eligibility criteria and guidance (CoU Standard)	Version 7.0, August 2024	UCR website
3	UCR	UCR Program Verification standard	Version 2.0, August 2022	UCR website
4	CDM	AMS-I. D: Grid connected renewable electricity generation	Version 18.0	CDM website
5	CEA	CO_2 baseline database for the Indian Power sector	Version 19.0 dated December 2023	-
6	CEA	Central Electricity Authority (Installation and Operation of Meters) (Amendment) Regulations, 2019	Dated 23/12/2019	-
7	Creduce	Project Concept Note	Version 1.0 dated 05/05/2024	PA
8	Creduce	Monitoring report	Version 1.0 dated 10/07/2024	PA
9	Creduce	Assurance to avoid double accounting by project owners	Double accounting agreement signed on 03/09/2024	PA
10	Creduce	Emission reduction excel – “1.25 MW Wind Power Project”	Version 1.0 dated 10/07/2024	PA
11	GEDA	Technical specification	-	PA
12	GEDA	Project Commissioning certificate	Dated 15/02/2012	PA
13	Bharti Automation (P) Ltd.	Meter no.: GJU62588	-	PA
14	GETCO & PO	Wheeling agreement for captive use	Dated 23/01/2012	PA
15	PA	Communication agreement between PP and PO	Dated 11nd April, 2024	PA
16	GETCO	Energy Generation Certificates	-	PA
17	PA	Monitoring report	Version 2.0 dated 20/10/2024	PA

18	PA	Emission reduction excel – “1.25 MW Wind Power Project”	Version 2.0 dated 20/10/2024	PA

Appendix 3: Clarification request, corrective action request and forward action request

Table 1. CLs from this Project Verification

CL ID	01	**Section no.:** 3.3.6	Monitoring report	**Date:** 06/08/2024
Description of CL				
1. Details of energy generation certificates are missing for following months - 2013, 2014, April-15, May-15, June-15, July-15, Aug-15, Sep-15, Feb-16, Aug-16, Dec-16, Feb-17, Jul-17, Oct-17, Nov-17, Dec-17, Jan-18, Feb-18, Apr-18, May-18, June-18, July-18, Aug-18, Apr-19, May-20, 2021 year,2022 Year, Jan-23, Feb-23, Mar-23, Apr-23, May-23, June-23,Jul-23, Sep-23.				
Project Owner's response				**Date:** 20/10/2024
1. Missing energy generation reports are provided				
Documentation provided by Project Owner				
1. Energy generation reports				
UCR Project Verifier assessment				**Date:** 23/10/2024
1. Energy generation certificated provided by project owner has been verified with ER sheet and found to be confirming.				

CL ID	02	**Section no.:** 3.9	Others (If any)	**Date:** 06/08/2024
Description of CL				
Document stating that the project activity will not cause double counting is not available as per requirement of clause 1.8, Universal Carbon Registry Program Manual (ver 6.1, August 2024)				
Project Owner's response				**Date:** 20/10/2024
The agreement for Avoidance of Double Accounting has been provided by PP & PA.				
Documentation provided by Project Owner				
Agreement of Avoidance of Double Accounting				
UCR Project Verifier assessment				**Date:** 23/10/2024
The agreement provided by PA & PP is verified and found to be acceptable. Hence CL-2 is closed.				

Table 2. CARs from this Project Verification

CAR ID	01	**Section no.:** 3.2	General description of project activity	**Date:** 06/08/2024
Description of CAR				
In PCN Version 1.0 dated 05/05/2024 location coordinates are missing in the section A.3 as per the requirement of UCR CoU standard Ver.6 (page no. 7).				
Project Owner's response				**Date:** 20/10/2024
Location coordinates are updated in the revised PCN V2.0 and submitted.				
Documentation provided by Project Owner				
PCN Version 2.0				
UCR Project Verifier assessment				Date: 23/10/2024
The location coordinates are verified and found correct. Hence, CAR-1 is closed.				

CAR ID	02	**Section no.:** 3.3.1	Application of methodologies and standardized methodologies	**Date:** 16/08/2024
Description of CAR				
in the PCN dated 05/05/2024 and MR dated 10/07/2024 Methodology version is not correctly written as per requirement of UCR CoU standard Ver.6 (page no. 8 to 10)				
Project Owner's response				**Date:** 20/10/2024
The correction has been made in methodology version mentioned and MR Version 2.0 & PCN Ver. 2.0 is provided.				
Documentation provided by Project Owner				
MR Version 2.0 & PCN Ver. 2.0				
UCR Project Verifier assessment				Date: 23/10/2024
MR version 2.0 and PCN version 2.0 are checked against the latest version of methodology and found to be confirming, Hence, CAR-2 is closed.				

Table 3. FARs from this Project Verification

FAR ID	--	**Section no.**		**Date:**
Description of FAR				
Project Owner's response				**Date:**
Documentation provided by Project Owner				