Monitoring Report

CARBON OFFSET UNIT (CoU) PROJECT

Title: Bundled Wind power project in Jaisalmer (Rajasthan in India) managed by Enercon (India)Ltd.

Version 1.1

Date 13/01/2026

First CoU Issuance Period: 10 Years 06 Months

Monitoring Period: 01/07/2014 to 31/12/2024

Monitoring Report (MR)
CARBON OFFSET UNIT (CoU) PROJECT

Monitoring Report	
Title of the project activity	Bundled Wind power project in Jaisalmer (Rajasthan in India) managed by Enercon (India)Ltd.
UCR Project Registration Number	510
Version	1.1
Completion date of the MR	13/01/2026
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: (first and last days included (01/07/2014 to 31/12/2024)
Project participants	Wind World Wind Farms (Jaisalmer)
Host Party	India
Applied methodologies and standardized baselines	ACM0002.: Grid-connected electricity generation from renewable sources, Version 22.0
Sectoral scopes	01 Energy industries (Renewable/Non-renewable Sources)
ChangeEstimated amount of GHG emission reductions for this monitoring period in the registered PCN	2014: 14,426 CoUs (14,426 tCO2eq)
	2015: 23,656 CoUs (23,656 tCO2eq)
	2016: 15,362 CoUs (15,362 tCO2eq)
	2017: 12,577 CoUs (12,577 tCO2eq)
	2018: 19,888 CoUs (19,888 tCO2eq)
	2019: 23,580 CoUs (23580 tCO2eq)
	2020: 23,105 CoUs (23,105 tCO2eq)
	2021: 28,267 CoUs (28267 tCO2eq)
	2022: 25,742 CoUs (25,742 tCO2eq)
	2023: 28,071 CoUs (28,071 tCO2eq)
	2024: 16,225 CoUs (16,225 tCO2eq)
Total:	2,30,899 CoUs

SECTION A. Description of project activity

A.1. Purpose and general description of project activity >>

The project activity comprises the development, design, engineering, procurement, financing, construction, operation, and maintenance of a bundled wind power project located in Jaisalmer, Rajasthan, India. The project, owned by WWIL and managed by Enercon (India) Ltd., generates clean and reliable renewable electricity that is supplied to the (Rajasthan in India. By displacing electricity generation from grid-connected fossil fuel–based power plants. The Project avoids greenhouse-gas emissions that would otherwise arise from grid-connected, fossil-fuel-fired power plants.

The project activity entails the supply, erection, commissioning and operation of 41 Enercon E-40 wind electric generators, each with a rated capacity of 600 kW. The Project is wholly owned by Wind World Wind Farms (Jaisalmer) Pvt. Ltd. (hereinafter referred to as the Project Proponent or PP).

a) Purpose of the project activity and the measures taken for GHG emission reductions >>

The purpose of the project activity is to generate renewable electricity using wind energy and thereby reduce greenhouse gas (GHG) emissions associated with fossil fuel-based electricity generation. The electricity generated is fed into the Indian grid, where a significant portion of power generation is still based on coal and other fossil fuels. By replacing this carbon-intensive electricity, the project contributes to direct emission reductions. The emission reductions are calculated using the approved consolidated CDM methodology ACM0002: Grid-connected electricity generation from renewable sources (Version 22.0), which is applicable to renewable energy projects that displace grid electricity. The project does not use any fossil fuel inputs and hence does not result in any project emissions or leakage. The baseline emissions are determined based on net electricity supplied to the grid and the applicable emission factors for each year.

The project utilizes renewable wind energy to generate electricity, displacing fossil fuel-based power generation and reducing anthropogenic GHG emissions by actual 2,30,899 tCO2e. It produces approximately 2,59,959.37 MWh of clean electricity, contributing to the Rajasthan grid. The project supports India's transition to a low-carbon power sector, aligns with national and international climate goals, and contributes positively to sustainable development by reducing air pollutants and conserving natural resources.

b) Brief description of the installed technology and equipment>>

Wind World Wind Farms (Jaisalmer) Pvt. Ltd. has successfully implemented and commissioned a 24.6 MW grid-connected wind power project in the state of Rajasthan, India. The project comprises 41 Wind Electric Generators (WEGs) of type Enercon E-40, each with an individual rated capacity of 600 kW. The turbines were supplied, installed, and are currently maintained by Wind World (India) Limited, which serves as both the original equipment manufacturer (OEM) and operations & maintenance (O&M) contractor. The project was fully commissioned on 12/06/2004, and all units are operational.

Each Wind Energy Generator (WEG) produces electricity at 400 V, which is stepped up to 33 kV at the project site. The generated power is then transmitted to a pooling substation, where it is further stepped up to 132 kV for evacuation into the Rajasthan State Electricity Grid, which forms part of

the Indian national grid. The project supplies electricity under a long-term Power Purchase Agreement (PPA) signed & executed between Wind World (India) Limited (WWIL) and Rajasthan Rajya Vidyut Prasaran Nigam Limited (RVPN), with power scheduled for supply to the regional distribution companies of Rajasthan, namely Jodhpur, Jaipur, and Ajmer DISCOMs.

The project is equipped with metering systems installed in accordance with applicable regulatory and grid code requirements. Meter readings are taken jointly with DISCOM officials to ensure transparency and accuracy in energy accounting. The expected operational lifetime of the project is 20 years, consistent with standard wind energy project lifespans. As a renewable energy project using mature and proven wind turbine technology, it does not involve the combustion of fossil fuels and has zero project emissions. The electricity generated contributes directly to displacing fossil fuel-based generation on the Indian grid, thereby supporting measurable and verifiable reductions in greenhouse gas (GHG) emissions under the Universal Carbon Registry (UCR) framework.

c) Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.)>>

The first Wind Electric Generator (WEG) under the project activity was fully commissioned on 26/03/2004 and the last Wind Electric Generator (WEG) was commissioned on 12/06/2004 and all 41 WEGs were commissioned as part of a single-phase implementation. The project has remained in continuous operation since its commissioning. The expected operational lifetime of the project is 20 years, as per standard wind energy project design and the terms of the Power Purchase Agreement.

UCR Project ID or Date of Authorization: 501
Start Date of Crediting Period: 01/07/2014
Project Commissioned: Details Given Below

Loc No	WTG No	Village Name	Capacity (MW)	Discom	Commissioning date
EWFJPL-01	91/1425	Soda Bandhan	0.6	Jodhpur	26/03/2004
EWFJPL-02	91/1426		0.6	Jodhpur	
EWFJPL-03	91/1443		0.6	Jodhpur	
EWFJPL-04	91/1440		0.6	Jodhpur	
EWFJPL-05	91/1444		0.6	Jodhpur	
EWFJPL-06	91/1451		0.6	Jodhpur	
EWFJPL-07	91/1453		0.6	Jodhpur	
EWFJPL-08	91/1456		0.6	Jodhpur	
EWFJPL-09	91/1452		0.6	Jodhpur	
EWFJPL-10	91/1454		0.6	Jodhpur	
EWFJPL-11	91/1441		0.6	Jodhpur	
EWFJPL-12	91/1429		0.6	Jodhpur	
EWFJPL-13	91/1430		0.6	Jodhpur	
EWFJPL-14	91/1431		0.6	Jodhpur	
EWFJPL-15	91/1442		0.6	Jodhpur	
EWFJPL-16	91/1455		0.6	Jodhpur	

EWFJPL-17	91/1457		0.6	Jodhpur	
EWFJPL-18	91/1459	Soda Bandhan	0.6	Jodhpur	29/03/2004
EWFJPL-19	91/1460		0.6	Jodhpur	
EWFJPL-20	91/1475		0.6	Jodhpur	
EWFJPL-21	91/1461		0.6	Jodhpur	
EWFJPL-22	91/1462		0.6	Jodhpur	
EWFJPL-23	91/1465		0.6	Jodhpur	
EWFJPL-24	91/1464		0.6	Jodhpur	
EWFJPL-25	91/1463		0.6	Jodhpur	
EWFJPL-26	91/1467	Soda Bandhan	0.6	Jodhpur	31/03/2004
EWFJPL-27	91/1476		0.6	Jodhpur	
EWFJPL-28	91/1470		0.6	Jodhpur	
EWFJPL-29	91/1471		0.6	Jodhpur	
EWFJPL-30	91/1473		0.6	Jodhpur	
EWFJPL-31	91/1472		0.6	Jodhpur	
EWFJPL-32	91/1474		0.6	Jodhpur	
EWFJPL-33	91/1477		0.6	Jodhpur	
EWFJPL-34	91/1466		0.6	Jodhpur	
EWFJPL-35	91/1469	Soda Bandhan	0.6	Jodhpur	18/05/2004
EWFJPL-36	91/1468		0.6	Jodhpur	
EWFJPL-37	91/1479		0.6	Jodhpur	
EWFJPL-38	91/1480		0.6	Jodhpur	
EWFJPL-39	91/1478		0.6	Jodhpur	
EWFJPL-40	91/1458		0.6	Jodhpur	
EWFJPL-41	91/1498	Korva	0.6	Jodhpur	12/06/2004

d) Total GHG emission reductions achieved or net anthropogenic GHG removals by sinks achieved in this monitoring period>>

The total GHG emission reductions achieved in this monitoring period is as follows:

Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	01/07/2014
Carbon credits claimed up to	31/12/2024
Total ERs generated (tCO_{2eq})	2,30,899 tCO2eq
Leakage	0

e) Baseline Scenario>>

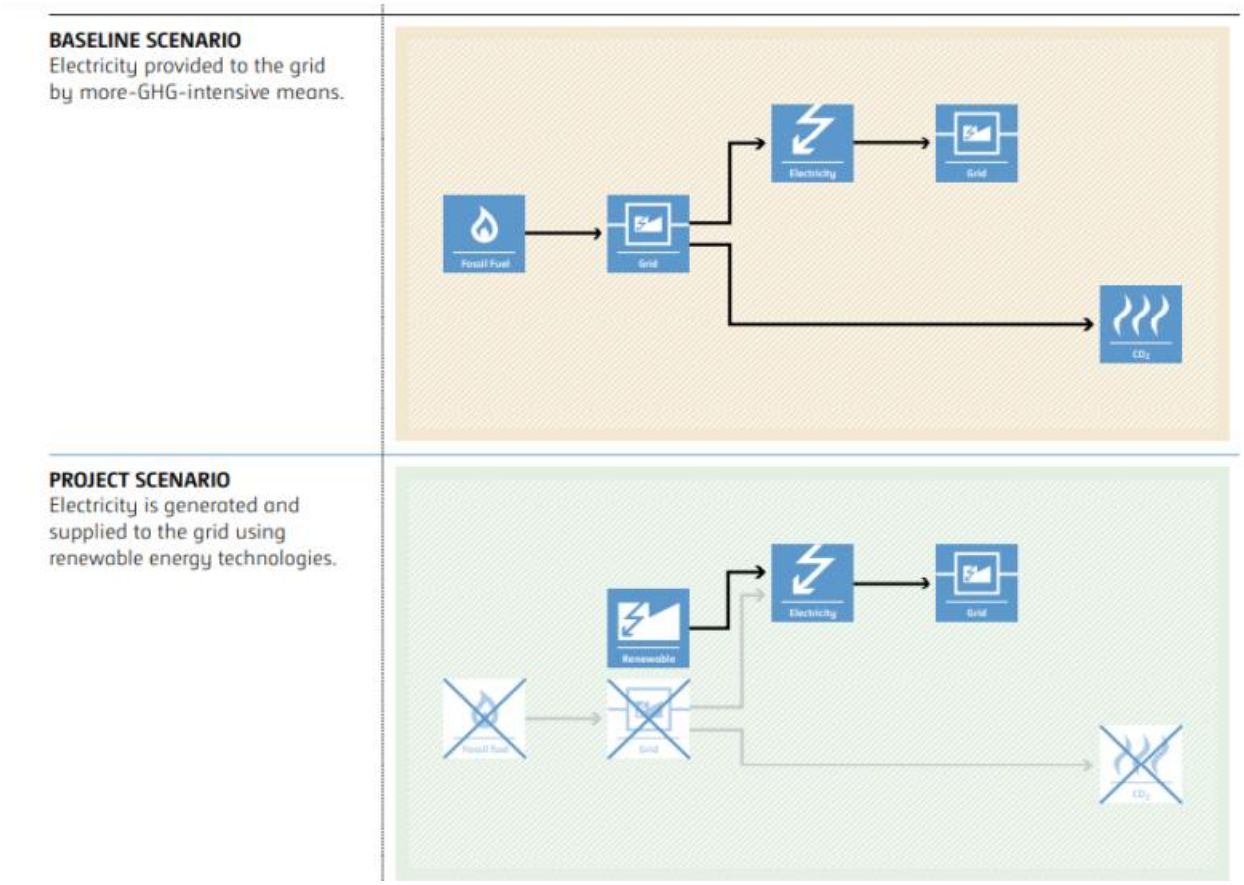
The baseline scenario identified at the PCN stage of the project activity is:

The scenario existing prior to the implementation of the project activity, is electricity delivered to the facility by the project activity that would have otherwise been generated by the operation of grid

connected power plants and by the addition of new generation sources. This is a green field project activity. There was no activity at the site of the project participant prior to the implementation of this project activity. Hence pre-project scenario and baseline scenario are the same.

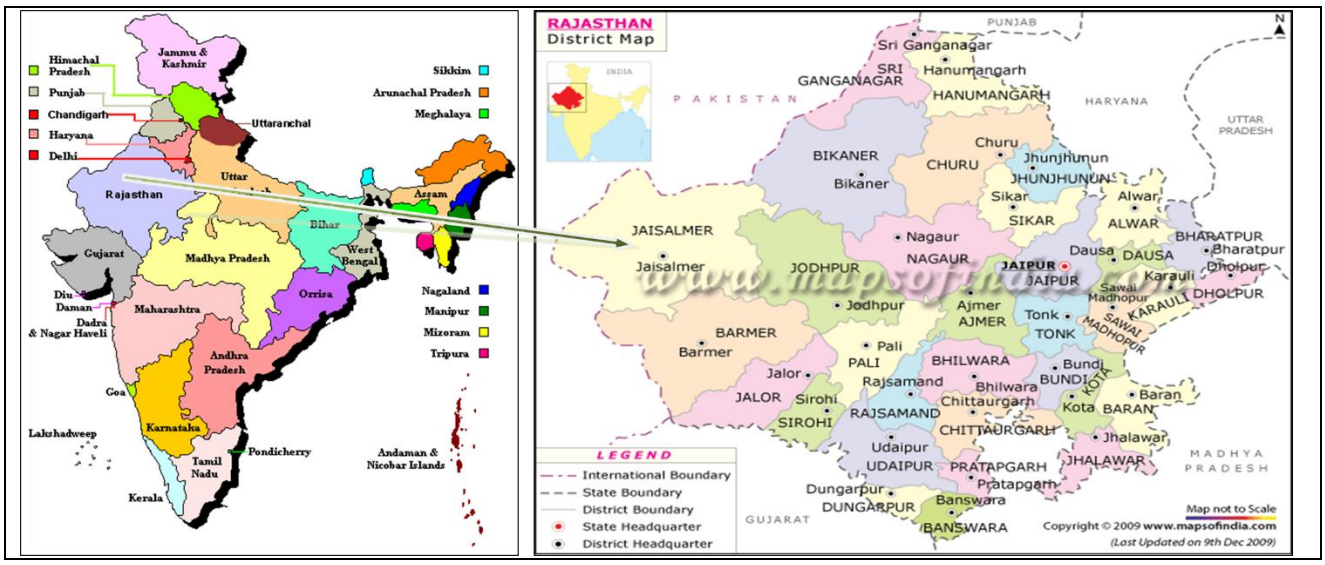
As per the approved consolidated methodology ACM0002 Version 22, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: "If the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity 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 to the grid".

The Schematic diagram showing the baseline scenario:



A.2. Location of project activity>>

The project is spread across Soda and Korwa villages in Fatehgarh Tehsil, Jaisalmer District, in the state of Rajasthan, India.



Project Activity

The detailed individual WTG location numbers and coordinates of project activity are provided below.

S. No.	Loc No	WTG No	Village Name	Capacity (MW)	Discom	Geo-Cordinate	
						Latitude	Longitude
1	EWFJPL-01	91/1425	Soda Bandhan	0.6	Jodhpur	26.64014	70.882987
2	EWFJPL-02	91/1426		0.6	Jodhpur	26.64202	70.882816
3	EWFJPL-03	91/1443		0.6	Jodhpur	26.6392	70.884494
4	EWFJPL-04	91/1440		0.6	Jodhpur	26.67108	70.903294
5	EWFJPL-05	91/1444		0.6	Jodhpur	26.67038	70.903218
6	EWFJPL-06	91/1451		0.6	Jodhpur	26.66467	70.902438
7	EWFJPL-07	91/1453		0.6	Jodhpur	26.66375	70.90243
8	EWFJPL-08	91/1456		0.6	Jodhpur	26.64202	70.882816
9	EWFJPL-09	91/1452		0.6	Jodhpur	26.63153	70.884541
10	EWFJPL-10	91/1454		0.6	Jodhpur	26.65898	70.902844
11	EWFJPL-11	91/1441		0.6	Jodhpur	26.65841	70.903464
12	EWFJPL-	91/1429		0.6	Jodhpur	26.63425	70.883537

	12						
13	EWFJPL-13	91/1430		0.6	Jodhpur	26.61968	70.880095
14	EWFJPL-14	91/1431		0.6	Jodhpur	26.65322	70.907983
15	EWFJPL-15	91/1442		0.6	Jodhpur	26.61855	70.891456
16	EWFJPL-16	91/1455		0.6	Jodhpur	26.65178	70.909115
17	EWFJPL-17	91/1457		0.6	Jodhpur	26.65057	70.909048
18	EWFJPL-18	91/1459	Soda Bandhan	0.6	Jodhpur	26.61313	70.884947
19	EWFJPL-19	91/1460		0.6	Jodhpur	26.61977	70.877041
20	EWFJPL-20	91/1475		0.6	Jodhpur	26.6178	70.894694
21	EWFJPL-21	91/1461		0.6	Jodhpur	26.64287	70.905346
22	EWFJPL-22	91/1462		0.6	Jodhpur	26.64208	70.906104
23	EWFJPL-23	91/1465		0.6	Jodhpur	26.64063	70.901428
24	EWFJPL-24	91/1464		0.6	Jodhpur	26.6387	70.904499
25	EWFJPL-25	91/1463		0.6	Jodhpur	26.638	70.903198
26	EWFJPL-26	91/1467	Soda Bandhan	0.6	Jodhpur	26.6363	70.90113
27	EWFJPL-27	91/1476		0.6	Jodhpur	26.63606	70.899243
28	EWFJPL-28	91/1470		0.6	Jodhpur	26.64195	70.897636
29	EWFJPL-29	91/1471		0.6	Jodhpur	26.61453	70.881104
30	EWFJPL-30	91/1473		0.6	Jodhpur	26.61617	70.885295
31	EWFJPL-31	91/1472		0.6	Jodhpur	26.61935	70.897262
32	EWFJPL-32	91/1474		0.6	Jodhpur	26.61484	70.891358
33	EWFJPL-33	91/1477		0.6	Jodhpur	26.63768	70.889229
34	EWFJPL-34	91/1466		0.6	Jodhpur	26.63691	70.88974
35	EWFJPL-35	91/1469	Soda Bandhan	0.6	Jodhpur	26.63607	70.890161
36	EWFJPL-36	91/1468		0.6	Jodhpur	26.63539	70.891064

37	EWFJPL-37	91/1479		0.6	Jodhpur	26.63452	70.891694
38	EWFJPL-38	91/1480		0.6	Jodhpur	26.62775	70.887919
39	EWFJPL-39	91/1478		0.6	Jodhpur	26.63143	70.890262
40	EWFJPL-40	91/1458		0.6	Jodhpur	26.62523	70.889205
41	EWFJPL-41	91/1498	Korva	0.6	Jodhpur	26.6237	70.888933

A.3. Parties and project participants >>

Party (Host)	Participants
India	Wind world (India)Ltd

A.4. References to methodologies and standardized baselines >>

SECTORAL SCOPE –01 Energy industries (Renewable/Non-renewable sources)

TYPE I - **Renewable Energy Projects**

CATEGORY- ACM0002., Consolidated baseline methodology for grid-connected electricity generation from renewable sources -Version 22.0

A.5. Crediting period of project activity >>

Duration of the crediting period corresponding to this monitoring period: 01/07/2014 to 31/12/2024
Length of the crediting period corresponding to this monitoring period: 10 years 06 Months

A.6. Contact information of responsible persons/entities >>

Contact Person- Lokesh Jain
Email- lokesh.jain@viviidgreen.com
Phone no- +91 89208 56146
Address- Sri Krishna Complex, New Link Road, Opp. Laxmi Industrial Estate, Andheri (West), Mumbai - 400053

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity >>

a) Provide information on the implementation status of the project activity during this monitoring period in accordance with UCR PCN>>

The Wind World Wind Power Project, located in Soda Bandhan and Korwa villages, Fatehgarh Tehsil, Jaisalmer District, in the state of Rajasthan, India, has been fully implemented and operational throughout the monitoring period from 01/07/2014 to 31/12/2024. The project consists of 41 WTGs of 600 kW capacity each, aggregating to a total installed capacity of 24.6 MW. All turbines are of Enercon E-40 make and were supplied, installed, and are maintained by Wind World (India) Ltd.

The commissioning of the project was carried out in five phases: 19 turbines were commissioned on 26 March 2004, 08 on 29 March 2004, 09 on 31 March 2004, 06 on 18 May 2004, and the final turbine (WTG-41) in Korwa village was commissioned on 12 June 2004. Power is generated at 400 V, stepped up to 33 kV, and further to 132 kV, before being evacuated to the Rajasthan state electricity grid, which is part of the Indian interconnected grid.

The project has been reliably generating and supplying renewable electricity under a long-term Power Purchase Agreement (PPA) with Rajasthan Rajya Vidyut Prasaran Nigam Ltd. (RVPN) and Jodhpur DISCOM. No major interruptions or deviations from the project design have occurred during the monitoring period. The project continues to offset greenhouse gas emissions by displacing electricity from fossil fuel-based power plants, contributing to climate change mitigation.

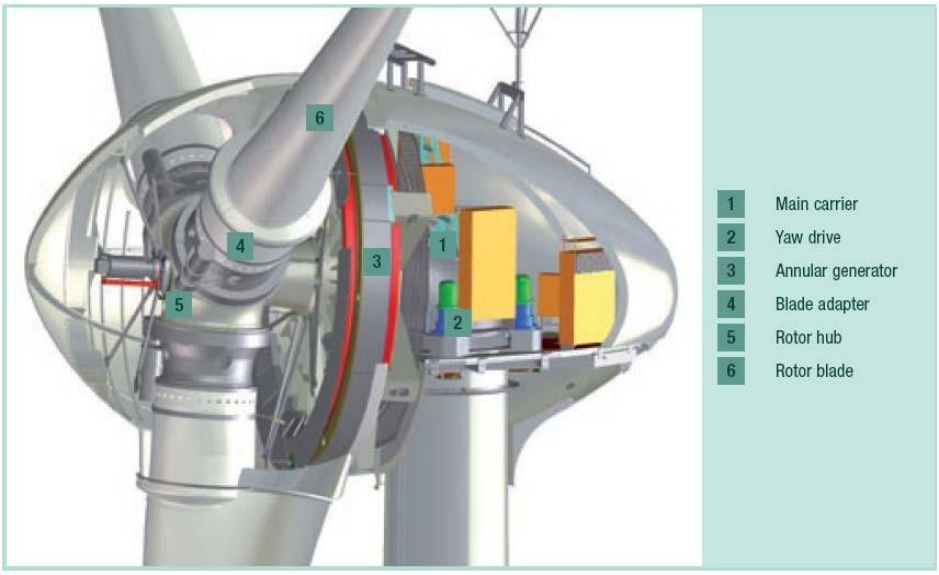
b) For the description of the installed technology(ies), technical process and equipment, include diagrams, where appropriate>>

The project activity consists of 41 Wind Electric Generators (WEGs) of Enercon E-40 make, each with a rated capacity of 600 kW, resulting in a total installed capacity of 24.6 MW. The WEGs generate 3-phase electricity at 400 V, which is stepped up to 33 kV and transmitted to the Wind World (India) Ltd. (WWIL) pooling substation. At the substation, the voltage is further stepped up to 132 kV for evacuation into the Rajasthan state electricity grid, which is integrated with the Indian national grid. The project is designed to operate within a frequency range of 47.5–51.5 Hz and a voltage range of 400 V ±12.5%, ensuring stable and compliant grid integration.

Turbine model	E-40
Rated power	600
Rotor diameter	48m
Hub height	74.85 m
Turbine Type	Gearless horizontal axis wind turbine with variable rotor speed
Power regulation	Independent electromechanical pitch system for each blade.
Design lifetime	20years
Cut in wind speed	2.5 *m/s*
Rated wind speed	12 *m/s*
Extreme Wind Speed	59.5 *m/s*

Rated rotational speed	31.5 rpm
Operating range rot. speed	16.0 - 31.5 rpm
Orientation	Upwind
Braking	Aerodynamic
Output Voltage	400 V
Tower	74 m concrete

E-40 Diagram (Cross sectional drawing of nacelle E-40 / 600 kW)



B.2 Do no harm or Impact test of the project activity>>

There are social, environmental, economic and technological benefits which contribute to sustainable development.

Social benefits:

- The project activity will contribute to socio-economic development through improving the infrastructure for road network and other mode of communications in the remote part of the state during both the construction and operational period.
- The project activity will utilize renewable energy source for electricity generation instead of fossil fuel-based electricity generation which would have emitted gaseous, liquid and/or solid effluents/wastes. Thus, the project causes no negative impact on the surrounding environment and contributes to environmental well-being.
- The project activity will contribute towards reduction of the GHG emissions as well as emission of pollutants like SOx, Suspended Particulate Matters (SPMs) etc. by avoiding equivalent amount of power generation from fossil fuel-based power plants.

Environmental benefits:

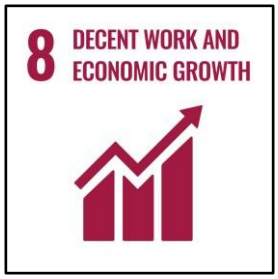
- Utilizing wind energy instead of burning fossil fuels for electricity generation significantly decreases the emission of harmful pollutants, fostering cleaner air, water, and soil.
- Leveraging wind energy aids in preserving natural resources and minimizing detrimental impacts on the environment, contributing to overall ecological well-being.
- Moreover, harnessing wind energy offers a sustainable alternative to burning fossil fuels,

which not only mitigates pollution but also conserves natural habitats and biodiversity, supporting healthier ecosystems and enhancing environmental resilience.

Economic benefits:

- The project will generate electricity utilizing renewable source like wind, thus will increase the contribution of renewable based power generation in the region and will also help in reducing the demand - supply gap of the respective grid.
- The project activity involves substantial amount of investment, thus will contribute towards generation of direct and indirect employment opportunities as per the requirement of the skilled and semi-skilled manpower.
- Use of a renewable source of energy reduces the dependence on imported fossil fuels and associated price variation, thereby leading to increased energy security.

The project activity contributes to the following SDGs:

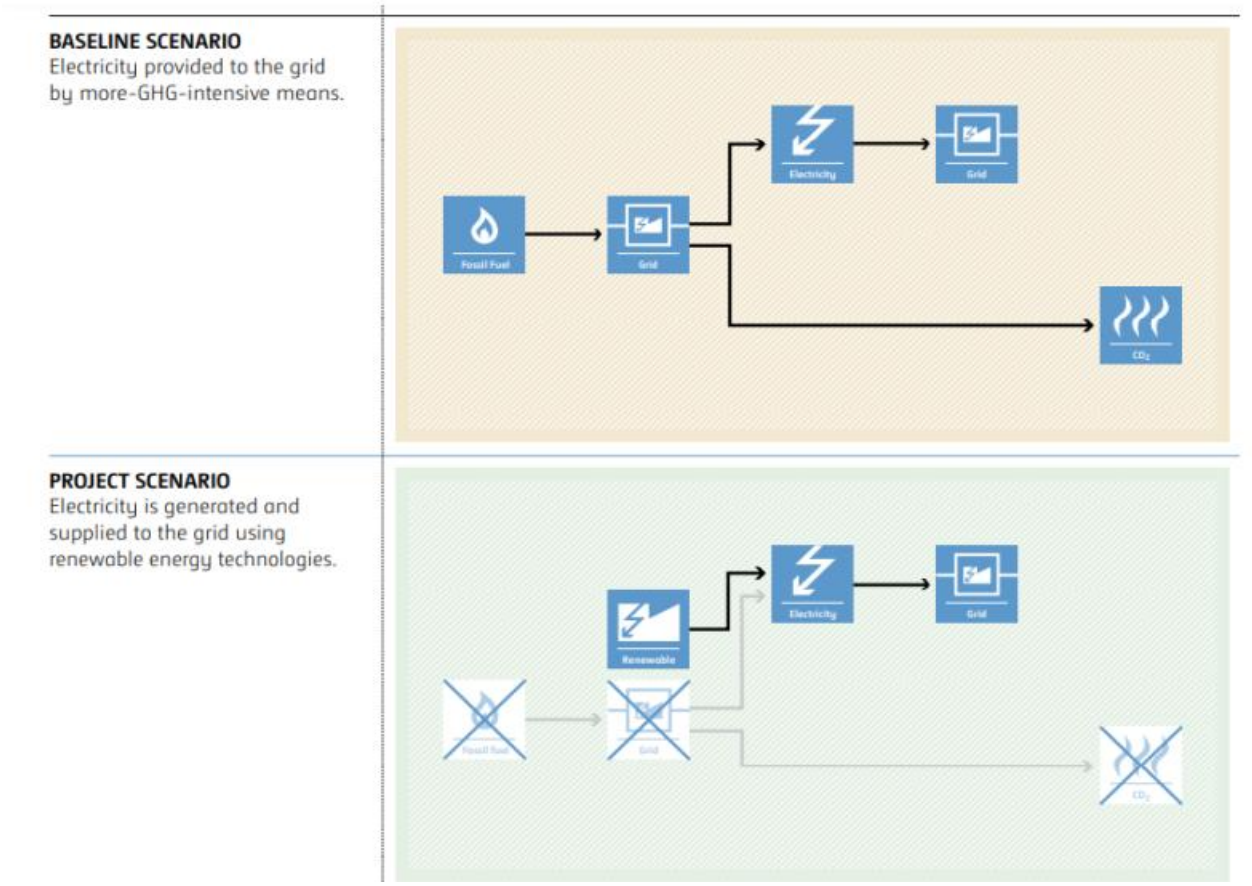
Goal 7 	➢ The project activity will generate clean energy, which with increased share will increase the affordability at a cheaper rate to end user. The project activity will utilize energy (renewal resource) to generate power. The project activity will increase the share of renewable resource-based electricity to global mix of energy consumption
Goal 8 	➢ Decent work and economic growth. This project generates additional employment for skilled and unskilled people, also the project situated in remote area will provide employment opportunities to unskilled people from villages. The training on various aspects including safety, operational issues and developing a skill set will also be provided for employees ➢ This project will achieve full and productive employment and decent work.
Goal 13 	➢ This 24.6MW Wind power project meets the SDG 13 goal by saving fossil fuel and producing clean energy. This project will reduce 2,30,899 tCO2 emissions ➢ In a Greenfield project, electricity delivered to the grid by the project would have otherwise been generated by the operation of grid connected power plants. Thereby the project activity reduces the dependence on fossil fuel-based generation units and as there are no emissions associated with this project it contributes to the reduction of greenhouse gases (GHG) emissions.

B.3. Baseline Emissions>>

The scenario existing prior to the implementation of the project activity, is electricity delivered to the facility by the project activity that would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources. This is a green field project activity. There was no activity at the site of the project participant prior to the implementation of this project activity. Hence pre-project scenario and baseline scenario are the same.

As per the approved consolidated methodology ACM0002 Version 22, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: "If the project activity is the installation of a Greenfield power plant, the baseline scenario is 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 to the grid".

The Schematic diagram showing the baseline scenario:



B.4. Debundling>>

The project activity is a debundled project of CDM with registration number 0310. [1]The crediting period for this project under CDM was from 01/07/2004 to 30/06/2014 (Fixed), which has now ended. The project proponent (PP) seeks verification under UCR starting from 01/07/2014, meaning the crediting period for UCR begins from that date. Therefore, there is no double counting for this project.

[1] CDM: Bundled Wind power project in Jaisalmer (Rajasthan in India) managed by Enercon (India) Ltd.

SECTION C. Application of methodologies and standardized baselines

C.1. References to methodologies and standardized baselines >>

SECTORAL SCOPE –01 Energy industries (Renewable/Non-renewable sources)

TYPE I **- Renewable Energy Projects**

CATEGORY- ACM0002., Consolidated baseline methodology for grid-connected electricity generation from renewable sources -Version 22.0

C.2. Applicability of methodologies and standardized baselines >>

Applicability Criteria.	**Applicability status**
1)This methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plant(s)/unit(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s), or (e) Involve a replacement of (an) existing plant(s)/unit(s). (f) Install a Greenfield power plant together with a grid-connected Greenfield pumped storage power plant. The greenfield power plant may be directly connected to the PSP or connected to the PSP through the grid.	The proposed project involves establishing a new grid-connected renewable wind power plant, confirming to the specified criteria.
2) In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that: (a)Integrate BESS with a Greenfield power plant; (b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic1 or wind power plant(s)/unit(s); (c) Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); (d) Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or wind power plant(s)/unit(s). (e) Integrate a BESS together with a Greenfield power plant that is operating in coordination with a PSP. The BESS is located at site of the greenfield renewable power plant.	The project entails installing a new grid-connected renewable wind power project without the integration of a Battery Energy Storage System (BESS). Therefore, this condition does not apply to the project activity.
3)The methodology is applicable under the following conditions: (a) Hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; (b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power	The proposed project involves installing new wind power plants without integrating a Battery Energy Storage System (BESS). Thus, the mentioned criterion does not apply

capacity addition projects) the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity; (c) In case of Greenfield project activities applicable under paragraph 7(a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g., by referring to feasibility studies or investment decision documents); (d) The BESS should be charged with electricity generated from the associated renewable energy power plant(s). Only during exigencies2 may the BESS be charged with electricity from the grid or a fossil fuel electricity generator. In such cases, the corresponding GHG emissions shall be accounted for as project emissions following the requirements under section 5.4.4 below. The charging using the grid or using fossil fuel electricity generator should not amount to more than 2 per cent of the electricity generated by the project renewable energy plant during a monitoring period. During the time periods (e.g., week(s), months(s)) when the BESS consumes more than 2 per cent of the electricity for charging, the project participant shall not be entitled to issuance of the certified emission reductions for the concerned periods of the monitoring period. (e) In case the project activity involves PSP, the PSP shall utilize the electricity generated from the renewable energy power plant(s) that is operating in coordination with the PSP during pumping mode	
4)In case of hydro power plants, one of the following conditions shall apply: a)The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs; or b)The project activity is implemented in an existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (7) is greater than 4 W/m2; or c)The project activity results in new single or multiple reservoirs and the power density calculate equation (7), is greater than 4 W/m2. d)The project activity is an integrated hydro power project involving multiple reservoirs, where the power density of any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m2, all of the following conditions shall apply. (i)The power density calculated using the total installed	The proposed project involves the installation of wind power plants/units. Hence, the mentioned criterion is not applicable.

capacity of the integrated project, as per equation (8), is greater than 4 W/m2; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii)Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m2 are: a) Lower than or equal to 15 MW; and b) Less than 10 per cent of the total installed capacity of integrated hydro power project.	
5)In the case of integrated hydro power projects, project proponent shall: a)Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or b)Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability indifferent seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of CDM project activity.	The proposed project activity involves the installation of wind power plants/units. Therefore, the mentioned criteria are not applicable.
6) In the case of PSP, the project participants shall demonstrate in the PDD that the project is not using water which would have been used to generate electricity in the baseline.	The proposed project activity involves installing wind power plants/units. Therefore, the specified criteria are not applicable.
7)The methodology is not applicable to: a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; b) Biomass-fired power plants;	The proposed project activity involves installing wind power plants/units. Therefore, the specified criteria are not applicable.
8)In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance	The proposed project activity involves installing wind power plants/units. Therefore, the specified criteria are not applicable.

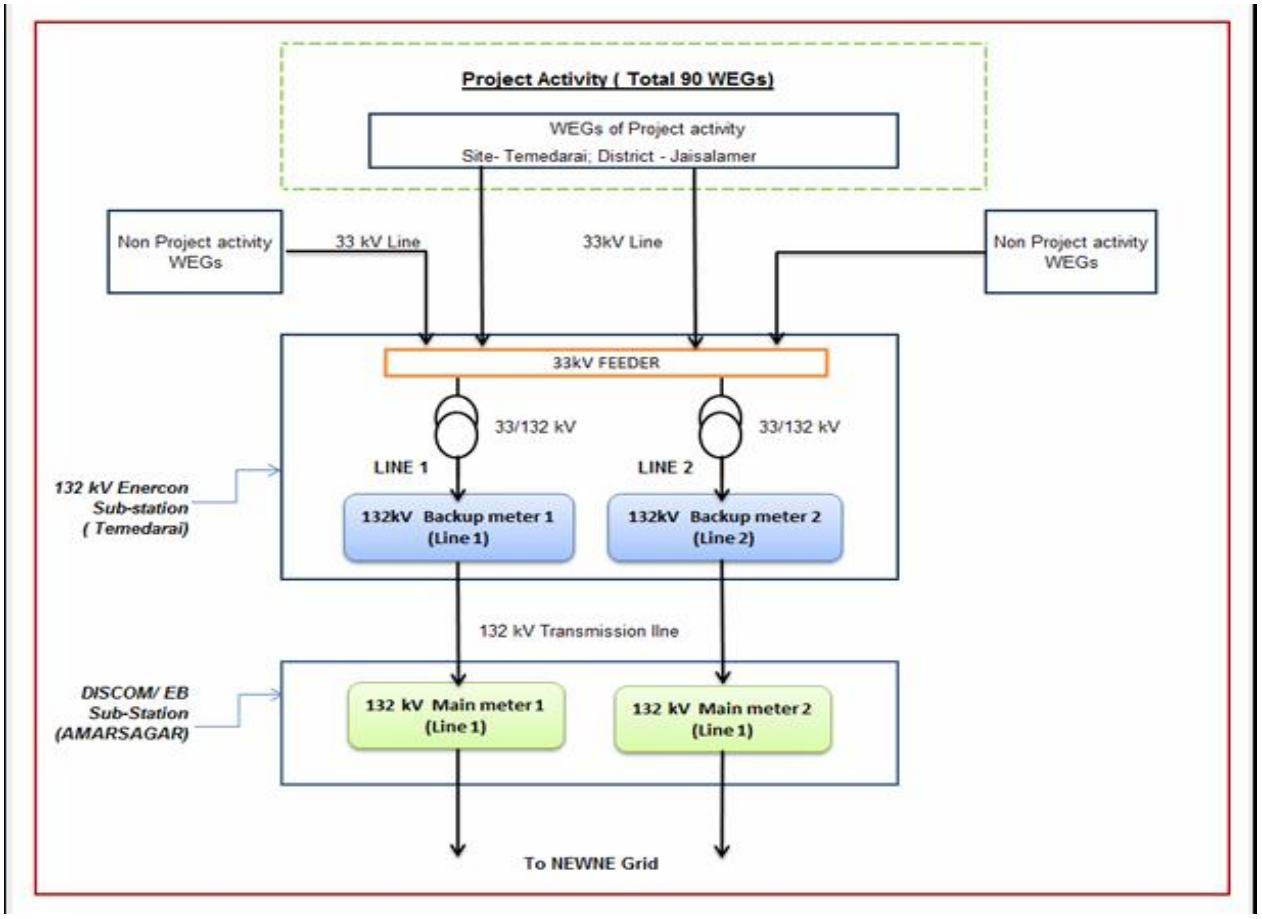
C.3 Applicability of double counting emission reductions >>

The project activity is a debundled project of CDM with registration number 0310. The crediting period for this project under CDM was from 01/07/2004 to 30/06/2014 (Fixed), which has now ended. The project proponent (PP) seeks verification under UCR starting from 01/07/2014, meaning the crediting period for UCR begins from that date. Therefore, there is no double counting for this project.

C.4. Project boundary, sources and greenhouse gases (GHGs)>>

According to the applicable methodology, the spatial extent of this project activity includes the project site, and all the power plants connected physically to the electricity system (grid) that the power project is connected to. Therefore, the project boundary includes all the 41 WECs of the other customers connected to the sub-station and metering points. The project activity is further connected to the network of state transmission utility which Falls under the network of Indian grid. Thus, the project boundary also includes all the power plants physically connected to the Indian grid.

Project boundary:



The baseline study of the Indian grid shows that the main sources of GHG emissions under the baseline scenario are CO_2 emissions from the conventional power generating systems. Other emissions are that of CH_4 and N_2O but both emissions have been excluded for simplification. The project activity generates

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Grid connected electricity generation	CO_2	Yes	In the baseline scenario, the electricity would have been sourced from the Indian grid which in turn would be connected to fossil fuel fired power plants which emit CO_2.
		CH_4	No	No methane is expected to be emitted.
		N_2O	No	No nitrous oxide is expected to be emitted.
Project Scenario	Greenfield wind energy conversion system	CO_2	No	The project activity does not emit any emissions.
		CH_4	No	No methane is expected to be emitted.
		N_2O	No	No nitrous oxide is expected to be emitted.

C.5. Establishment and description of baseline scenario (UCR Protocol) >>

As per the approved consolidated methodology ACM0002. version - 22, 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 grid connected wind power plant to harness the green power from wind energy. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel fired plants. The power produced at grid from the 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.

As per approved consolidated methodology ACM0002, version 22.0, emission reduction is estimated as difference between the baseline emission and project emission after factoring into leakage

Emission reductions are calculated as per methodology ACM0002, Version 22.0 Equation 17 :

$$ER_y = BE_y - PE_y \qquad \textbf{(Eq. 1)}$$

Where,

ER_y = Emissions reductions in year y (t CO2)

BE_y = Baseline emissions in year y (t CO2)

PE_y = Project emissions in year y (t CO2)

Baseline Emissions

The baseline emissions as per methodology ACM0002, Version 22.0, para 57 ; encompass solely the CO2 emissions stemming from electricity generation in power plants displaced by the project activity. The methodology operates on the assumption that any electricity generation exceeding baseline levels would have originated from established grid-connected power plants and the integration of new grid-connected power plants.

The Baseline emissions as per methodology ACM0002, Version 22.0 Equation 11 in year y can be calculated as follows:

$BE_y = EG_{PJ,y} * EF_{grid,,y}$

Where:

BE_y= Baseline emissions in year *y* (tCO_2/yr)

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

$EF_{grid,y}$= Grid Emission factor in year y (tCO_2/MWh)

Since the project activity is the installation of a new grid connected renewable power plant (green field project), hence, $EG_{PJ,y}$ has been calculated as :

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

Where:

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

EGfacility,y = Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y* (MWh/yr)

A "grid emission factor" denotes the CO2 emission factor (measured in tCO2/MWh) associated with each unit of electricity supplied by an electricity system. The UCR suggests employing an emission factor of 0.9[2] from 2013 to 2023 and Emission Factor of 0.757 tCO2/MWh for 2024 as a cautious estimate for Indian projects. The same emission factor is utilized for computing emission reductions for the Project Activity.

[2]As per UCR CoU Standard Update: 2024 Vintage UCR Indian Grid Emission Factor Announced | by Universal Carbon Registry | Jan, 2025 | Medium

Project Emission:
Regarding project emissions, ACM0002 version 22.0 specifies that only emissions related to fossil fuel combustion, emissions from the operation of geothermal power plants due to the release of non-condensable gases, and emissions from water reservoirs of hydroelectric plants should be taken into account. Since the project involves a wind power project, emissions from renewable energy plants are negligible
Hence (PEy = 0).

Leakage Emission:

Leakage, as outlined in ACM0002 version 22.0, para 5.6, is considered to be zero as there is no transfer of energy-generating equipment in the project activity
Hence (LEy = 0).

While the actual emission reduction achieved during the initial crediting period will be submitted during the first monitoring and verification, an ex-ante estimation is provided for reference.

Sr. No	Month & Year	Adjusted Net Generation with Error Factor (in MWh)	Emission Factor	Baseline Emissions	Project Emissions	Emission Reductions
			(tCO2e/MWh)	(tCO2e)	(tCO2e)	tCO2e
1	01/07/2014 to 31/12/2014	16029	0.9	14426	0	14426
2	01/01/2015 to 31/12/2015	26284	0.9	23656	0	23656
3	01/01/2016 to 31/12/2016	17069	0.9	15362	0	15362
4	01/01/2017 to 31/12/2017	13974	0.9	12577	0	12577
5	01/01/2018 to 31/12/2018	22098	0.9	19888	0	19888
6	01/01/2019 to 31/12/2019	26201	0.9	23580	0	23580
7	01/01/2020 to 31/12/2020	25672	0.9	23105	0	23105
8	01/01/2021 to 31/12/2021	31408	0.9	28267	0	28267
9	01/01/2022 to	28602	0.9	25742	0	25742

	31/12/2022					
10	01/01/2023 to 31/12/2023	31190	0.9	28071	0	28071
11	01/01/2024 to 31/12/2024	21433	0.757	16225	0	16225
Total Emissions Reductions		**259959**				**2,30,899**

C.6. Prior History>>

The project activity is a debundled project of CDM with registration number 0310. The crediting period for this project under CDM was from 01/07/2004 to 30/06/2014 (Fixed), which has now ended. The project proponent (PP) seeks verification under UCR starting from 01/07/2014, meaning the crediting period for UCR begins from that date.

C.7. Monitoring period number and duration>>

First Issuance Period: 10 Years 06 Months - 01/07/2014 to 31/12/2024

C.8. Changes to start date of crediting period >>

There is no change in the start date of crediting period.

C.9. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

There are no permanent changes from registered PCN monitoring plan and applied methodology

C.10. Monitoring plan>>

Data and Parameters available at validation (ex-ante values):

Data / Parameter:	$EF_{grid,y}$
Data unit:	tCO2 /MWh
Description:	A "grid emission factor" refers to a CO2 emission factor (tCO2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO2/MWh for the for the 2013 - 2023 years and 0.757 tCO2/MWh for year 2024 as a fairly conservative estimate for Indian projects.
Source of data:	UCR CoU Standard Update: 2024 Vintage UCR Indian Grid Emission Factor Announced | by Universal Carbon Registry | Jan, 2025 | Medium

Measurement procedures (if any):	-
Monitoring frequency:	Ex-ante fixed parameter
QA/QC procedures:	For the calculation of Emission Factor of the grid
Any comment:	

Parameter that is bring monitor (ex-post)

Data/Parameter	$EG_{pj, y net}$
Data unit	MWh
Description	Net electricity generation supplied to the grid by the Project activity.
Measurement methods and procedures	Data Type: Measured Monitoring equipment: Energy Meters are used for monitoring Archiving Policy: Electronic Calibration frequency: Once in 5 years (considered as per provision of CEA [3] India). The net electricity generated by the project activity will be calculated.
Value Applied	**2,59,959 .37 MWh**
Monitoring frequency	The electricity generation is monitored continuously and recorded on a monthly basis. Monthly meter readings are used for emission reduction calculations, and the values are cross verified with invoices. This approach ensures consistent and accurate monitoring in line with the UCR methodology.
Purpose of data	For baseline emission calculations

[3] https://cea.nic.in/wp-content/uploads/2020/02/meter_reg.pdf

Annexure 1- Meter Details

Old Meter Details

Meter Type	Old Meter Sr. No.	Line No	Sub-station	Accuracy class	Make	Calibration Delay	Calibration Date	Calibration Validity
Main Meter	13195563	Line 1	Amarsagar	0.2	L & T	01-07-2014 to 31-05-2018	11-05-2018	10-05-2023
	13195562	Line 2	Amarsagar	0.2	L & T		11-05-2018	10-05-2023
Old Backup Meter	RJB00052	Line 1	Tebmderi	0.2	L & T	01-07-2014 to 31-05-2018	13-05-2018	22-07-2023
	ABB00691	Line 2	Tebmderi	0.2	L & T	01-07-2014 to 31-05-2018	14-05-2018	22-07-2023

New Meter Details

Meter Type	New Meter Sr. No.	Line No	Sub-station	Accuracy class	Make	Calibration Delay	Calibration Date	Calibration Validity
Main Meter	13195563	Line 1	Amarsagar	0.2	L & T	01-05-2023 to 31-12-2023	15-12-2023	14-12-2028
	13195562	Line 2	Amarsagar	0.2	L & T		15-12-2023	14-12-2028
Backup Meter	22001539	Line 1	Tebmderi	0.2	L & T	01-05-2023 to 31-12-2023	15-12-2023	22-07-2028
	22001505	Line 2	Tebmderi	0.2	L & T	01-05-2023 to 31-12-2023	15-12-2023	22-07-2028

- There is calibration delay for the current monitoring period from **01/07/2014 to 01/15/2018** & from **01/05/2023 to 01/12/2023** The error factor has been applied in net export values for the delayed period as meters were not calibrated as per the calibration frequency which is once in five years. As per the Appendix calibration of the VVS Standard v3.0, Para 366(a): error factor of "±0.2%" should be applicable for both export & import i.e. the measured values. However, net electricity generation is considered as per the registered monitoring plan, the separate export and import values are not available. Hence being conservative and to account for the error for both export & import, a cumulative error of "-0.4%" on net electricity generation has been applied for delay period.

- As part of a scheduled maintenance and calibration activity, two ABT backup meters were replaced on 26 July 2022. The ABT meter installed on the 132 kV Amarsagar–Temdarai

Line-I was replaced, with the meter number changed from RJB00052 to 22001539. Similarly, the ABT meter on the 132 kV Amarsagar–Temdarai Line-II was replaced, changing from meter number ABB00691 to 22001505.