Monitoring Report

CARBON OFFSET UNIT (CoU) PROJECT

Title: 2.10 MW Wind Power Project activity by Knack Packaging Private Limited

Version 2.0

Date 24/11/2025

First CoU Issuance Period: 01 years, 0 months

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

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

Monitoring Report	
Title of the project activity	2.10 MW Wind Power Project activity by Knack Packaging Private Limited
UCR Project Registration Number	573
Version	2.0
Completion date of the MR	24/10/2025
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: (first and last days included (01/01/2024 to 31/12/2024)
Project participants	Green Shift Climate Solutions (Representor) Knack Packaging Private Limited (Project Proponent)
Host Party	India
Applied methodologies and standardized baselines	Applied Baseline Methodology: AMS-I.D : "Grid connected renewable electricity generation", version 18
Sectoral scopes	01 Energy industries (Renewable/Non-Renewable Sources)
Estimated amount of GHG emission reductions for this monitoring period in the registered PCN	2024: 4591 CoUs (4591 tCO2eq)
Total:	4591 CoUs (4591 tCO2eq)

SECTION A. Description of project activity

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

The project 2.10 MW Wind Power Project activity by Knack Packaging Private Limited (Herein after called as Project Proponent "PP") is a wind power project located at Village-Moti Bhalsan, Taluka-Jamnagar, District Jamnagar, State Gujarat, Country India. The Project is an operational activity with continuous reduction of GHG, currently being applied under "Universal Carbon Registry" (UCR).

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

The main purpose of the project activity is the operation of 2.10 MW Wind Power Project to generated electricity in high wind areas of Gujarat. The Project is undertaken by Knack Packaging Private Limited The Project consists of 2.10 MW Wind Turbine generator (WTG).

The project will generate approximately 6,065 MWh of electricity per annum. The net generated electricity from the project activity is for captive consumption by the project proponent. Wheeling agreement is signed between PP and Uttar Gujarat VIJ Company Limited-UGVCL. 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 power plants. The estimated annual average and the total CO2 emission reduction by the project activity is expected to be 4620 t/CO2, whereas actual emission reduction achieved during the first CoU shall be submitted as a part of first monitoring and verification.

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

The project activity involves 1 number of wind turbine generator (WTGs) of Suzlon make (2100 KW, S-120-140) with internal electrical lines connecting the project activity with local evacuation facility. The WTGs generate 3-phase power at 400V, which can further be stepped up to 11 KV. The project activity can operate in the frequency range of 47.5–51.5 Hz and in the voltage range of 400 V ± 12.5%. The average life time of the WTGs is around 20 years as per the equipment supplier specification. The other salient features of the technology are:

Specification	Value
Turbine Model	Suzlon S-120-140
Rated Power	2100 kW
Rotor diameter	120 m
Hub Height	140 m
Turbine Type	Direct Driven, Horizontal axis wind turbine.
Power regulation	Independent pitch system for each blade
Cut in wind speed	3 m/s
Rated wind speed	9.5 m/s

Cutout Wind Speed	18 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 Make	Sulzon
Gear box type	One planetary stage and two helical stages
Generator type	Slip ring Asynchronous
Braking	Aerodynamic braking
Output Voltage	690 V AC (phase to phase)
Yaw System	Electrical Driven planetary gearbox with motor brake and output pinion
Tower	140 m

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

The duration of the crediting period corresponding to the monitoring period is covered in this monitoring report.
UCR Project ID: 573
Commissioning Date of the project : 29/12/2023
Start Date of Crediting Period: 01/01/2024

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	01/01/2024
Carbon credits claimed up to	31/12/2024
Total ERs generated (tCO_{2eq})	4620 tCO2eq
Leakage	0

e) Baseline Scenario>>

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

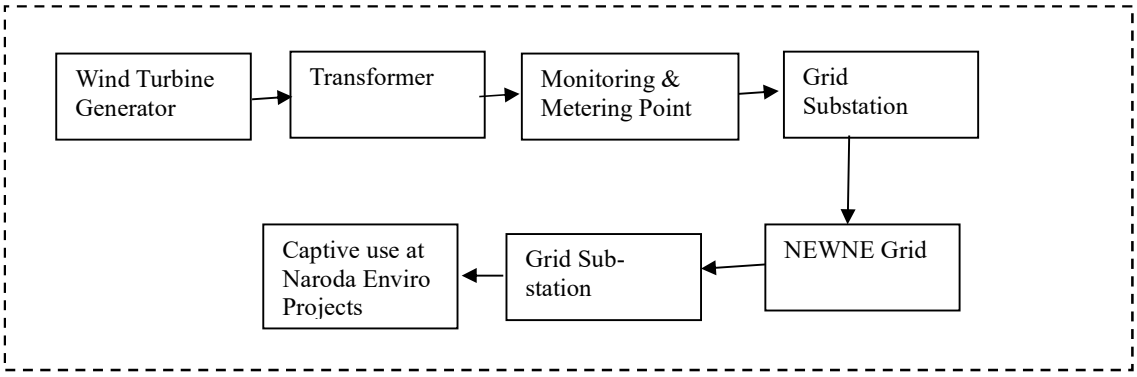
- Grid

In the absence of the project activity, the equivalent amount of electricity would have been imported

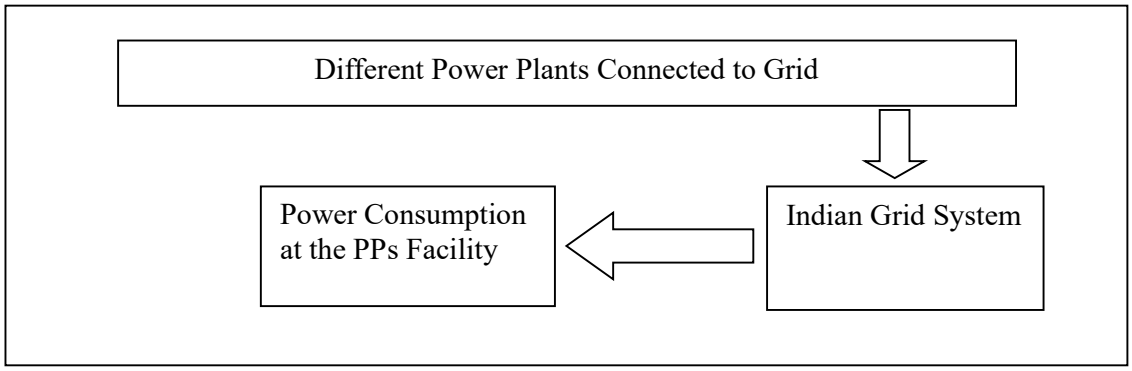
from the regional grid (which is connected to the unified Indian Grid system (NEWNE Grid)), which is carbon intensive due to predominantly sourced from fossil fuel-based power plants. Hence, baseline scenario of the project activity is the grid-based electricity system, which is also the pre-project scenario.

Schematic diagram showing the baseline scenario:

Project Scenario:



Baseline Scenario:



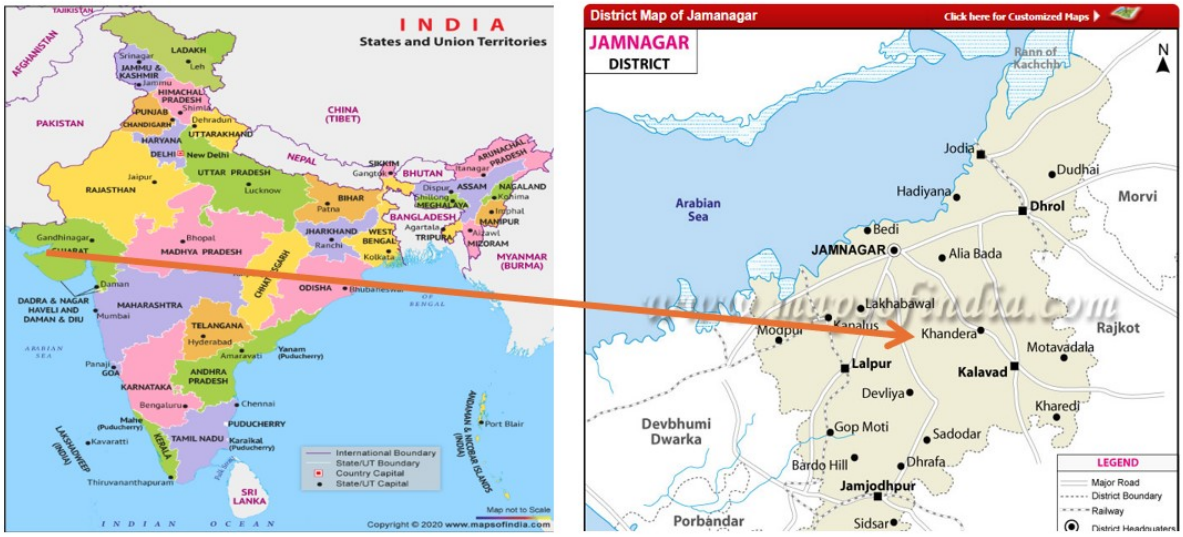
A.2. Location of project activity>>

Country: India
District: Jamnagar
Village: Moti Bhalsan
Taluka: Jamnagar
State: Gujarat

The project location is situated at village-Moti Bhalsan, District-Jamnagar in the state of Gujarat. The nearest airport is in Jamnagar. The project site is well connected by district and village roads to the nearest town.

The geographic co-ordinate of the project locations is 22°32'94.58"N 70°15'60.84"E

The representative location map is included below:



A.3. Parties and project participants >>

Party (Host)	Participants
India	**GreenShift Climate Solutions (Representator)** Contact Person: Sonia Bhatt Mobile: 8735000438 Address: 402, Akhand Anand avenue, Anand Nagar, charwda road, Vapi 396 191 **Knack Packaging Private Limited (Developer)** 330/A, 3rd Floor, Kalasagar Mall, Opposite Saibaba Temple, Near Sattadhar Cross Road, Ghatlodiya, Ahmedabad. 380 061

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

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

TYPE
I - Renewable Energy Projects

CATEGORY-
AMS. I.D. (Title : “Grid connected renewable electricity generation”, version 18.0

A.5. Crediting period of project activity >>

Start Date of Crediting Period : 01/01/2024 (1 year)
Length of the crediting period corresponding to this monitoring period: 1 year
i.e., 01/01/2023 to 31/12/2024 for the project (Both the dates are inclusive).

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

Name: Jayaprakash Jethi
Contact No: 9714253756/9033371536
E-Mail: limbajaenergy@gmail.com

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 project consists of 1 WTG with capacity of 2100 kW. Wind Turbine have WTG ID as KPPL/SEL/2100/23-24/7072 by Gujarat Energy Development Agency (GEDA), Government of Gujarat. The project generates clean energy by utilizing the kinetic energy of flowing wind.

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

The project activity involves 1 numbers wind turbine generators (WTGs) of Suzlon make (2100 KW, S-120-140) with internal electrical lines connecting the project activity with local evacuation facility. The WTGs generate 3-phase power at 400V, which can further be stepped up to 11 KV. The project activity can operate in the frequency range of 47.5–51.5 Hz and in the voltage range of 400 V ± 12.5%. The average life time of the WTGs is around 20 years as per the equipment supplier specification. The other salient features of the technology are:

Specification	Value
Turbine Model	Suzlon S-120-140
Rated Power	2100 kW
Rotor diameter	120 m
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Rated Rotational speed	20.62 rpm
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Orientation	Upwind
No of Blades	3 Blades
Blade Make	Sulzon
Gear box type	One planetary stage and two helical stages
Generator type	Slip ring Asynchronous

Braking	Aerodynamic braking
Output Voltage	690 V AC (phase to phase)
Yaw System	Electrical Driven planetary gearbox with motor brake and output pinion
Tower	140 m

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

The project activity is a green field activity where grid power is the baseline. The Indian grid system has been predominantly dependent on fossil fuel powered plants. Renewable power generation is gradually contributing to the share of clean and green power in the grid; however, the grid emission factor is still on the higher side which defines the gris as distinct baseline.

The Government of India has stipulated following indicators for sustainable development in the interim approval guidelines for such projects which are contributing to GHG mitigations. The Ministry of Environment, Forests & Climate Change, has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. It has been envisaged that the project shall contribute to sustainable development using the following ways:

Social well-being: The project would help in generating direct and indirect employment benefits accruing out of ancillary units for manufacturing towers for erection of the Wind Turbine Generator (WTG) and for maintenance during operation of the project activity. It will lead to development of infrastructure around the project area in terms of improved road network etc. and will also directly contribute to the development of renewable infrastructure in the region.

Economic well-being: The project is a clean technology investment decided based on carbon revenue support, which signifies flows of clean energy investments into the host country. The project activity requires temporary and permanent, skilled and semi-skilled manpower at the project location; this will create additional employment opportunities in the region. The generated electricity will be utilised for captive consumption, thereby reducing the demand from the grid. In addition, improvement in infrastructure will provide new opportunities for industries and economic activities to be setup in the area. Apart from getting better employment opportunities, the local people will get better prices for their land, thereby resulting in overall economic development.

Technological well-being: The project activity employs state of art technology i.e., 2.10 MW WTGs which has high power generation potential with optimized utilization of land. The successful operation of project activity would lead to promotion of this technology and would further push R&D efforts by technology providers to develop more efficient and better machinery in future. Hence, the project leads to technological well-being.

Environmental well-being: The project activity will generate power using zero emissions wind-based power generation facility which helps to reduce GHG emissions and specific pollutants like SOx, NOx, and SPM associated with the conventional thermal power generation facilities. The project utilizes wind energy for generating electricity which is a clean source of energy. The project activity will not generate any air pollution, water pollution or solid waste to the environment which otherwise would have been generated through fossil fuels. Thus, the project causes no negative impact on the surrounding environment contributing to environmental well-being.

With regards to ESG credentials:
At present specific ESG credentials have not been evaluated, however, the project essentially contributes to various indicators which can be considered under ESG credentials. Some of the examples are as follows:

Under Environment:
Environmental criteria may include a company's energy use, waste, pollution, natural resource conservation, and treatment of animals etc. For the project proponent, energy use pattern is now based on renewable energy due to the project and it also contributes to GHG emission reduction and

conservation of depleting energy sources associated with the project baseline. Also, the criteria can be further evaluated on the basis of any environmental risks which the company might face and how those risks are being managed by the company. Here, as the power generation will be based on wind power, the risk of environmental concerns associated with non-renewable power generation and risk related to increasing cost of power etc. are now mitigated. Hence, project contributes to ESG credentials.

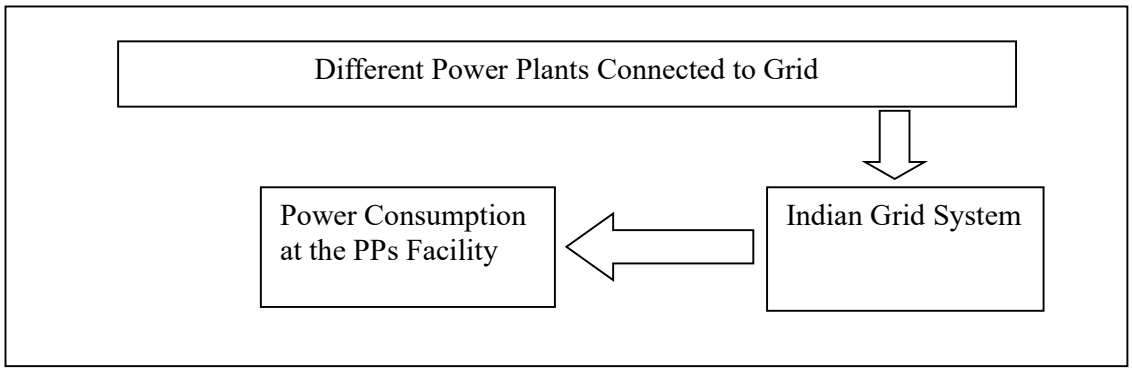
Under Social:
Social criteria reflect on the company's business relationships, qualitative employment, working conditions with regard to its employees' health and safety, interests of other stakeholders' etc. With respect to this project, the Project Proponent has robust policies in place to ensure equitable employment, health & safety measures, local jobs creation etc. Also, the organizational CSR activities directly support local stakeholders to ensure social sustainability. Thus, the project contributes to ESG credentials.

Under Governance:
Governance criteria relates to overall operational practices and accounting procedure of the organization. With respect to this project, the Project Proponent practices a good governance practice with transparency, accountability and adherence to local and national rules & regulations etc. This can be further referred from the company's annual report. Also, the project activity is a wind power project owned and managed by the proponent for which all required NOCs and approvals are received. The electricity generated from the project can be accurately monitored, recorded and further verified under the existing management practice of the company. Thus, the project and the proponent ensure good credentials under ESG.

B.3. Baseline Emissions>>

In the absence of the project activity, the equivalent amount of electricity would have been imported from the regional grid (which is connected to the unified Indian Grid system (NEWNE Grid)), which is carbon intensive due to predominantly sourced from fossil fuel-based power plants.

Baseline Scenario:



Thus, this project activity was a voluntary investment which replaced equivalent amount of electricity from the Indian grid. The project proponent was not bound to incur this investment as it was not mandatory by national and sectoral policies. Thus, the continued operation of the project activity would continue to replace fossil fuel-based power plants and fight against the impacts of climate change. The Project Proponent hopes that carbon revenues in 2021 accumulated as a result of carbon credits generated will help repay the loans and help in the continued maintenance of this project activity.

B.4. Debundling>>

This project activity is not a debundled component of a larger project activity.

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-
AMS. I.D. (Title : "Grid connected renewable electricity generation", version 18.0

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

- The project activity involves generation of grid connected electricity from the construction and operation of a wind power based power project for supply to grid . The project activity has installed capacity of 2.10 MW which qualifies for a small scale project activity The project status is corresponding to the methodology AMS.I.D. version 18 .0 and applicability of methodology is discussed below

Applicability Criterion	Project Case
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 2.10 MW Wind based power generation project that generates and wheels (supply) renewable electricity through NEWNE grid (currently identified as Unified Indian grid system) to its unit for captive consumption as per wheeling agreement signed between UGVCL and PP. Hence, the project activity meets the given applicability criterion as well as satisfies the applicability illustration mentioned in AMS-I.D. version 18.
2. This methodology is applicable to project activities that: (a) Install a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); (b) Involve a capacity addition in (an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s); or (d) Involve a replacement of (an) existing plant(s).	The project activity is installation of new WTG's. PP doesn't have any WTG at the project site prior to the implementation of the project activity. The option (a) of applicability criteria 2 is applicable as project is a Greenfield plant / Unit. Hence the project activity meets the given applicability criterion.
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	The project activity is a wind power plant. Hence, not applicable

existing reservoir, with no change in the volume of the reservoir; or (b) The project activity is implemented in existing reservoir, where the volume of the reservoir(s) is increased and the power density 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 emissions section, is greater than 4 W/m2	
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 project activity is only 2.10 MW Wind based renewable electricity generation project. It does not include any non-renewable unit and cofiring system.
5. Combined heat and power (co-generation) systems are not eligible under this category	The project activity does not involve combined heat and power generation system as it is only a wind power project.
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 distinct from the existing units.	It is a Greenfield project and not the extension of an existing renewable energy facility.
7. In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement power plant/unit shall not exceed the limit of 15 MW.	The project activity is not the retrofitting or replacement of an existing facility for renewable energy generation. Hence, this criterion in not applicable.

C.3 Applicability of double counting emission reductions >>

There is no double accounting of emission reductions in the project activity due to the following reasons:

- Project is uniquely identifiable based on its location coordinates
- Project has dedicated commissioning certificate and connection point
- Project is associated with energy meters which are dedicated to the consumption point for project developer.

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

As per applicable methodology AMS-ID Version 18 "The spatial extent of the project boundary included the project power plant and all power plants connected physically to the electricity systems that the project power plant is connected to."

Thus, the project boundary includes the Wind turbine Generator (WTGs) and the India grid system.

Source		GHG	Included?	Justification/Explanation
Baseline	Grid Connected electricity generation	**CO2**	**Yes**	**Main emission source**
		CH4	No	Minor emission source
		N2O	No	Minor emission source
		Other	No	No other GHG emissions were emitted from the project
Project	Greenfield Wind Power Project Activity	CO2	No	No CO2 emissions are emitted from the project
		CH4	No	Project activity does not emit CH4
		N2O	No	Project activity does not emit N20
		Other	No	No other emissions are emitted from the project

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

This section provides details of emission displacement rates/coefficients/factors established by the applicable methodology selected for the project.

As per para 10 of the approved consolidated methodology AMS-I.D. Version 18, 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 wind power plant to harness the green power from wind energy and to use for captive purpose via grid interface through wheeling arrangement. 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.

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 2014- 2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Hence, the same emission factor has been

considered to calculate the emission reduction under conservative approach.

Net GHG Emission Reductions and Removals

Thus, ERy = BEy – PEy – LEy

Where:
ERy = Emission reductions in year y (tCO2/y)
BEy = Baseline Emissions in year y (t CO2/y)
PEy = Project emissions in year y (tCO2/y)
LEy = Leakage emissions in year y (tCO2/y)

Baseline Emissions

Baseline emissions include only CO2 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.

The baseline emissions are to be calculated as follows:
$BEy = EGPJ,y \times EFgrid,y$

Where:
BEy = Baseline emissions in year y (t CO2)
$EGPJ,y$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EFgrid,y$ = UCR recommended emission factor of 0.9 tCO2/MWh has been considered.
(Reference: General Project Eligibility Criteria and Guidance, UCR Standard, page 4)

Project Emissions

As per AMS-I.D. version-17, only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of Hydro should be accounted for the project emission. Since the project activity is a wind power project, project emission for renewable energy plant is nil.

Thus, PEy =0.

Leakage

As per paragraph 22 of AMS-I.D. version-17, 'If the energy generating equipment is transferred from another activity, leakage is to be considered.' In the project activity, there is no transfer of energy generating equipment and therefore the leakage from the project activity is considered as zero.

Hence, LEy= 0

The actual emission reduction achieved during the first CoU period shall be submitted as a part of first monitoring and verification. However, for the purpose of an ex-ante estimation, following calculation has been submitted:

Estimated annual baseline emission reductions (BEy)

= 6065 MWh/year *0.757 tCO2/MWh

= 4591 tCO2/year (i.e., 4591 CoUs/year)

C.6. Prior History>>

The project activity has not applied to any other GHG program for generation or issuance of carbon offsets or credits for the said crediting period.

C.7. Monitoring period number and duration>>

First Monitoring Period: 1 year 0 months
01/01/2024 to 31/12/2024 (inclusive of both dates)

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 >>

Not Applicable

C.10. Monitoring plan>>

Data and Parameters available at Validation (ex-ante values)

Data/Parameter	UCR Recommended Emission Factor
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 2014- 2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.
Source of data	https://cea.nic.in/wp-content/uploads/baseline/2024/01/User_Guide__Version_19.0.pdf
Value applied	0.757
Measurement methods and	-

procedures	
Monitoring frequency	Ex-ante fixed parameter
Purpose of data	For the calculation of Emission factor of the Grid
Additional comment	The combined margin emission factor as per CEA database (current version 19, Dec 2023) results into higher emission factor. Hence for 2021 vintage UCR default emission factor remains conservative.

Data and Parameters to be monitored. (ex-post monitoring values)

Data / Parameter:	EG BL,y
Data unit:	Mwh/Year
Description:	Net electricity supplied to the NEWNE grid facility by the project activity
Source of data:	GEDA Share certificate issued by GETCO (Gujarat Energy Transmission Corporation Limited)
Measurement procedures (if any):	Continuous monitoring and monthly recordings take place. The net electricity supplied by the project activity is taken directly from the share certificate issued by GETCO on monthly basis and will be directly used to estimate the emission reduction. This can be further cross-checked with the invoice receipt. Measurement Procedure:
Monitoring frequency:	Monthly
Value applied	1973
QA/QC procedures:	Calibration of the GETCO Main meters will be carried out once in five years as per National Standards (as per the provision of CEA, India) and faulty meters will be duly replaced immediately as per the provision of power purchase agreement. The net amount of electricity exported to the grid as per Share certificate issued by GETCO can be cross verified by the monthly bills.
Purpose of data	The Data/Parameter is required to calculate the baseline emission.
Any comment:	All the data will be archived till a period of two years from the end of the crediting period. Since the renewable power generated from the project is used for captive consumption via wheeling, hence during the monitoring and verification the provision of the wheeling agreement may be referred.

Annexure-1 (Emission Reduction Calculation)

2.10 MW Wind Power Project activity by Knack Packaging Private Limited

Month Wise Aggregated Energy Delivered to Grid (in MWh)												
Year	January	February	March	April	May	June	July	August	September	October	November	December
2024	183.357	409.401	503.191	511.460	805.644	681.759	788.102	841.770	496.388	190.544	185.855	467.93

Year-Wise Emission Reduction calculation for the Project activity			
Year	Total Electricity Delivered in Mwh	Recommended Emission Factor tCO2/Mwh	Total CoU Generated
2024	6065	0.757	4591
Total.	6,065	0.757	4,591
Total CoU to be issued for the first reporting period (Calender Year 2024)			**4,591**

Year	January	February	March	April	May	June	July	August	September	October	November	December
2024	183,357	409,401	503,191	511,460	805,644	681,759	788,102	841,770	496,388	190,544	185,855	467.93