PROJECT CONCEPT NOTE (PCN)

CARBON OFFSET UNIT (CoU) PROJECT

Title: 3.75 MW Bundled Wind Power Project by GARL, Gujarat

Version 1.0

Date of PCN: 28/09/2023

1st CoU Issuance Period: 01/01/2013 to 31/12/2022 (1**0 years 00 months 00 days)**

1st Monitoring Period: 01/01/2013 to 31/12/2022 (1**0 years 00 months 00 days)**

Project Concept Note (PCN)
CARBON OFFSET UNIT (CoU) PROJECT

BASIC INFORMATION	
Title of the project activity	**3.75 MW Bundled Wind Power Project by GARL, Gujarat**
Scale of the project activity	Small Scale
Completion date of the PCN	28/09/2023
Project participants	**Project Proponent**: Gokul Agro Resources Limited (GARL) **UCR ID**: 341368293
Host Party	India
Applied methodologies and standardized baselines	**Type I** (Renewable Energy Projects) **UNFCCC Methodology Category AMS-I.D**. Small-scale Methodology *Grid connected renewable electricity generation, Ver 18.0* **UCR Protocol Standard Baseline Emission Factor**
Sectoral scopes	01 Energy industries (Renewable/NonRenewable Sources)
SDG Impacts:	SDG 7 Affordable and Clean energy SDG 8 Decent work and economic growth SDG 13 Climate Action
Estimated amount of total GHG emission reductions per year	**5430** CoUs/yr (**5430** tCO_{2eq}/yr)

SECTION A. Description of project activity

A.1. Purpose and general description of Carbon offset Unit (CoU) project activity >>

The project activity titled, **3.75 MW Bundled Wind Power Project by GARL, Gujarat,** is located as follows:

WTG ID	Survey No	Village	Taluka/District	State/Country
V05	34/2	Motisindhodi	Abdasa,/ Kutch	Gujarat/India
M16	114p	Kadoli		
ADO-33	289/8P/p1	Ratanpar	Porbandar	

The project activity employs three (3) wind turbine generators (WTGs) of Suzlon make with each having a capacity of **1250 kWh** (total **3.75 MWh** installed capacity) by **M/s Gokul Agro Resources Limited** (GARL, Project Proponent or PP).

The PP is one of the leading FMCG companies in India with international presence in the edible and non-edible oils industry. GARL is engaged in the manufacturing and exports of industrial products viz. castor oil of various grades and its derivatives. The PP has the full ownership of the project activity. This project is an operational activity with continuous reduction of GHGs, currently being applied under the "Universal Carbon Registry" program (i.e. UCR CoU Standard), which rewards wind power programs with carbon credits as an incentive for positive climate action in the Global South, as opposed to carbon finance in other international voluntary carbon programs.

The generated electricity from the WTGs are connected to the state electric utility grids of Gujarat. The commissioning date of the first WTG in the bundle is considered as the start date of the project activity and is recorded as **18/07/2006**.

In the absence of the project activity, electricity would have been delivered to the grid by the operation of fossil fuel-based grid-connected power plants and by the addition of new fossil fuel-based generation sources in the grid. As is the nature of wind projects (renewable energy), no fossil fuel is involved for power generation in the project activity. The electricity produced by the project is directly contributing to climate change mitigation by reducing the anthropogenic emissions of greenhouse gases (GHGs, i.e. CO_2) into the atmosphere by displacing an equivalent amount of power at grid.

The project activity is hence the installation of new grid connected renewable power plants/units. The baseline scenario and scenario existing prior to the implementation of the project activity are both the same.

The project activity is displacing an estimated annual net electricity generation i.e., **6034 MWh** from the Indian grid system, which otherwise would have been generated by the operation of fossil fuel-based grid-connected power plant. The estimated annual average CO2e emission reductions by the project activity is expected to be **5430 tCO_{2e}**, whereas actual emission reduction achieved during the first CoU period shall be submitted as a part of first monitoring and verification.

Since the project activity will generate electricity through wind energy, a clean renewable energy source it does not cause any negative impacts on the environment and thereby contributes to climate change mitigation efforts.

Purpose of the project activity:

Indian economy is highly dependent on "Coal" as fuel to generate energy and for production processes. Thermal power plants are the major consumers of coal in India and yet the basic electricity needs of a large section of population are not being met. This results in excessive demands for electricity and places immense stress on the environment.

Changing coal consumption patterns will require a multi-pronged strategy focusing on demand, reducing wastage of energy and the optimum use of renewable energy (RE) sources. This project activity is a greenfield activity where fossil grid power is the baseline. The renewable power generation is gradually contributing to the share of clean & green power in the grid; however, grid emission factor is still on higher side which defines the grid 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:

 Social well being is assessed by contribution by the project activity towards improvement in living standards of the local community.
 The project activity has resulted in increased job opportunities for the local population on temporary and permanent basis.
 Manpower was required both during erection and operation of the wind farms. This has resulted in poverty alleviation of the local community and development of basic infrastructure leading to improvement in living standards of the local population.

Economic well being

 The project activity has created direct and indirect job opportunities to the local community during installation and operation of the WEGs.
 The investment for the project activity has increased the economic activity of the local area.
 The project activity also contributes in economic well being of the nation's economy by reducing import of fossil fuel for electricity generation in hard currency.

Environmental well being

 The project utilizes wind energy for generating electricity which otherwise would have been generated through alternate fuel (most likely - fossil fuel) based power plants, contributing to reduction in specific emissions (emissions of pollutant/unit of energy generated) including GHG emissions.
 As wind power projects produce no end products in the form of solid waste (ash etc.), they address the problem of solid waste disposal encountered by most other sources of power.
 Being a renewable resource, using wind energy to generate electricity contributes to resource conservation. Thus, the project activity causes no negative impact on the surrounding environment.

Technological well being

 There is continuous research and development on the geometry of the wind blades, height of towers, diameters of towers, etc., which augurs well for the technological well being in the development of wind energy to produce clean electricity.

 The generated electricity from the project activity is connected to the grid. The project activity improves the supply of electricity with clean, renewable wind power while contributing to the regional/local economic development.
 Wind energy plants provide local distributed generation, and provide site-specific reliability and transmission and distribution benefits including:

- o Improved power quality
- o Reactive power control
- o Mitigation of transmission and distribution congestion

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:

The following environmental benefits are derived from the project activity:

- Produces renewable electricity without any GHG emissions.
- Wind power plants have little impact on the surrounding ecology.

For the PPs, energy sale 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. Hence, project contributes to ESG credentials.

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

There are social, environmental, economic and technological benefits which contribute to sustainable development. Rational: As per 'Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India)', final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (07/03/2016), it has been declared that wind project activity falls under the "White category".

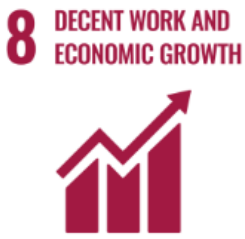
White Category projects/industries do not require any Environmental Clearance such as 'Consent to Operate' from PCB as such project does not lead to any negative environmental impacts. Additionally, as per Indian Regulation, Environmental and Social Impact Assessment is not required for Wind Projects.

United Nations Sustainable Development Goals:

The project activity generates electrical power using wind energy which is generated from windmills, there by displacing non-renewable fossil resources resulting to sustainable, economic and environmental development. In the absence of the project activity equivalent amount of power generation would have taken place through fossil fuel dominated power generating stations.

Thus, the renewable energy generation from project activity will result in reduction of the greenhouse gas emissions. Positive contribution of the project to the following Sustainable Development Goals:

- SDG13: Climate Action
- SDG 7: Affordable and Clean Energy
- SDG 8: Decent Work and Economic Growth

Development Goals	Targeted SDG	Target Indicator (SDG Indicator)
 SDG 13: Climate Action	13.2: Integrate climate change measures into national policies, strategies and planning Target: GHG emissions avoided (tCO_2) per annum	13.2.1: Number of countries that have communicated establishment or operationalization of an integrated policy/ strategy/ plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
 SDG 7: Affordable and Clean Energy	7.2: By 2030, increase substantially the share of renewable energy in the global energy mix Target: MWh supplied per annum	7.2.1: Renewable energy share in the total final energy consumption
 SDG 8: Decent Work and Economic Growth	8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value Target: Training, O&M staff	8.5.1: Average hourly earnings of female and male employees, by occupation, age and persons with disabilities

Wind and solar made up 92% of India's power generation capacity additions in 2022.

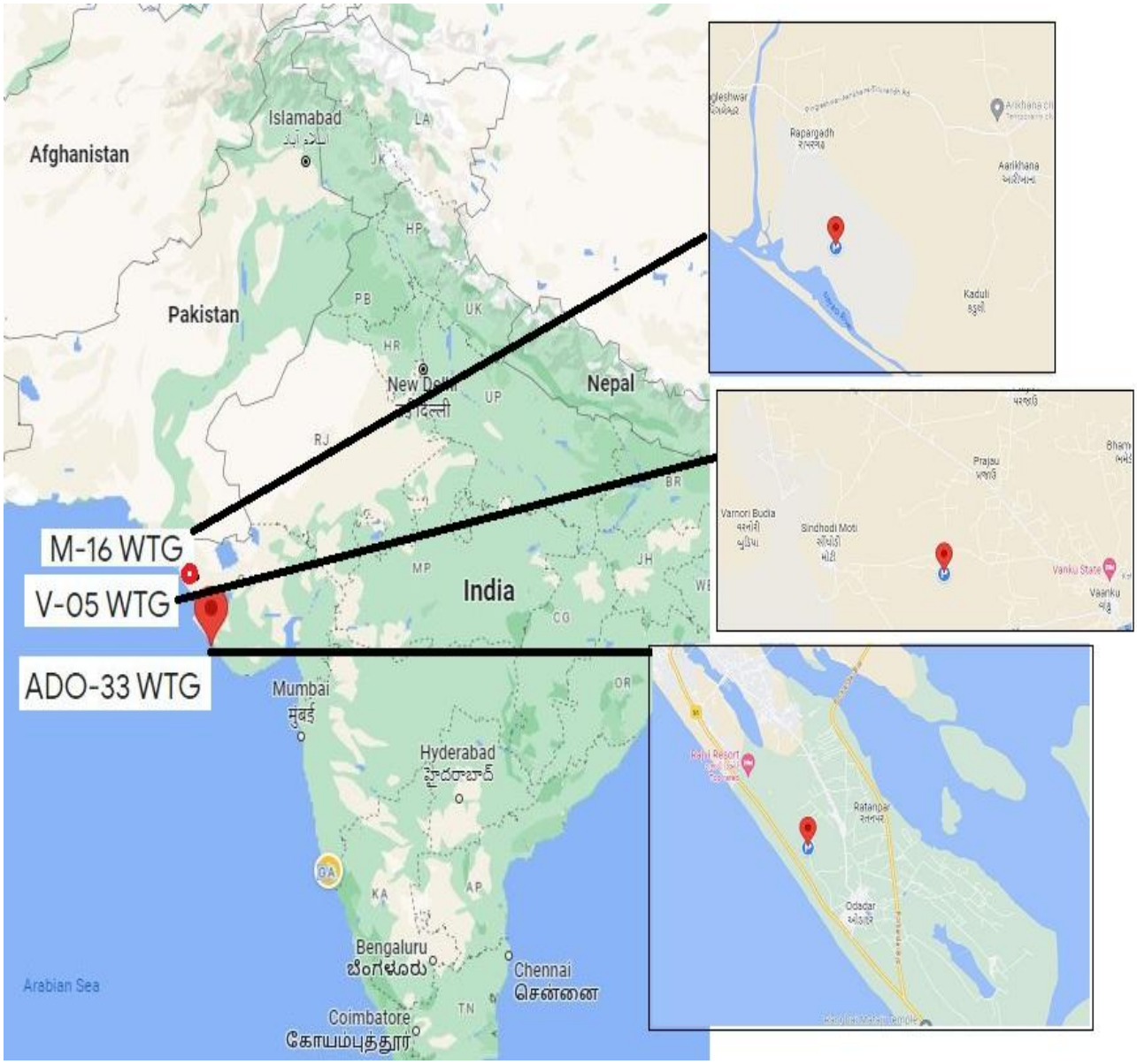
A.2 Do no harm or Impact test of the project activity>>

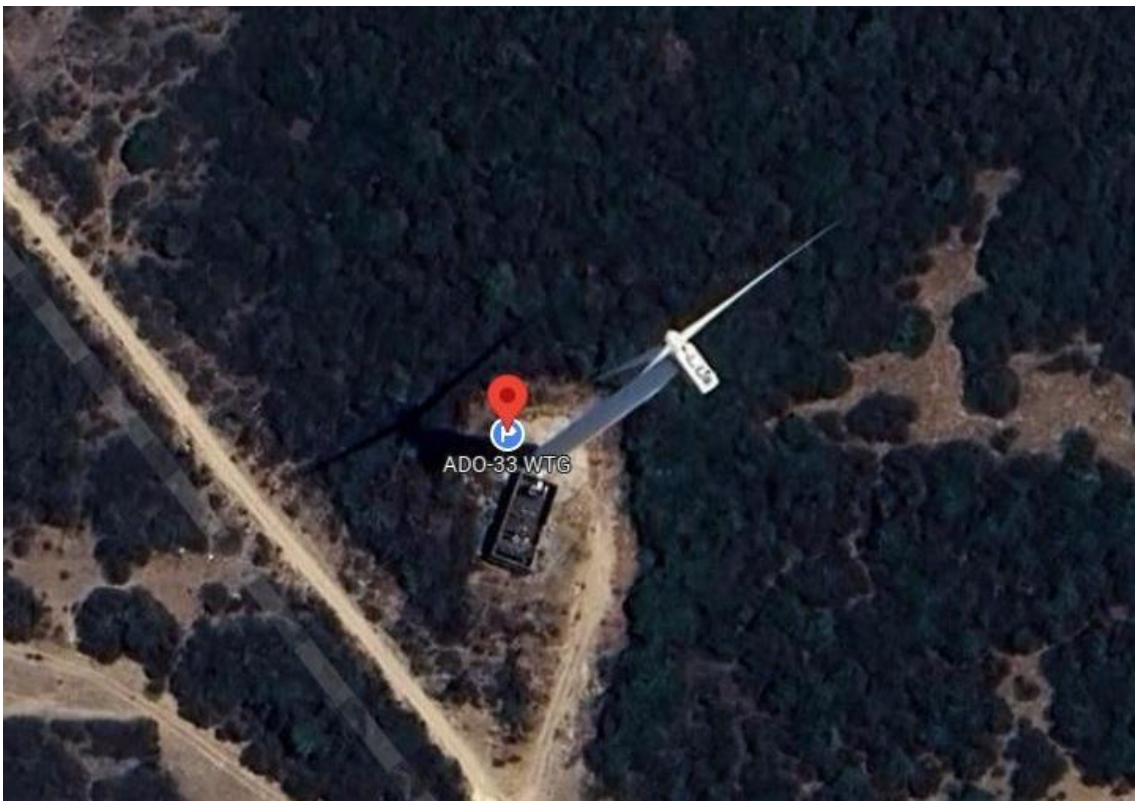
Rational: There was no harm identified form the project and hence no mitigations measures are applicable. As per 'Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India)', final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (07/03/2016), it has been declared that wind project activity falls under the "White category". White Category projects/industries do not require any environmental clearance such as 'Consent to Operate' from PCB as such project does not lead to any negative environmental impacts. Additionally, as per Indian Regulation, Environmental and Social Impact Assessment is not required for wind projects.

A.3. Location of project activity >>

WTG ID	Survey No	Village	Latitude/Longitude	Taluka/District	State/Country
V05	34/2	Motisindhodi	23°07'42.4"N/ 68°48'42.0"E	Abdasa,/ Kutch	Gujarat/India
M16	114p	Kadoli	23°03'34.5"N/ 68°49'53.1"E		
ADO-33	289/8P/p1	Ratanpar	21°35'29.0"N/ 69°39'27.6"E	Porbandar	

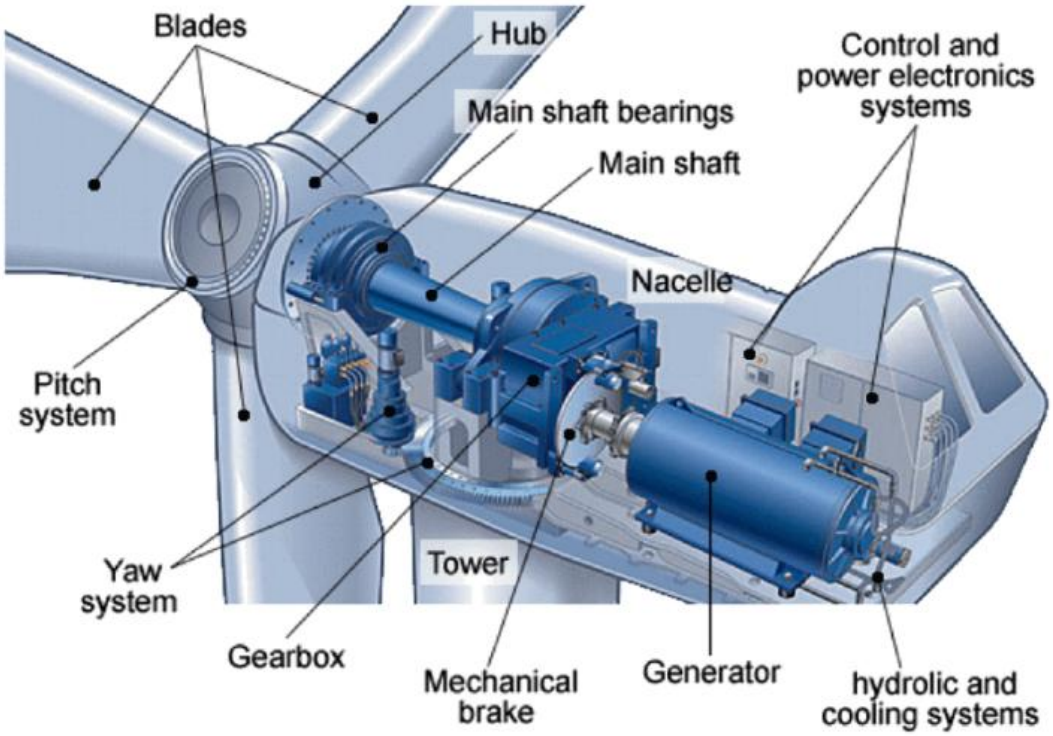
The representative location map is included below:





A.4. Technologies/measures >>

The project activity incorporates installation of three (3) numbers of 1250KW WTGs of Suzlon Energy Limited. In wind energy based power generation, the kinetic energy of the wind is being converted to mechanical energy and subsequently to electric energy. The kinetic energy is converted into mechanical energy. The wind blade supplies the mechanical energy to the generator thereby producing electricity.



The project activity is using clean renewable wind energy to produce electricity. The WTGs are connected through substation through 33 KV overhead transmission lines. The applied technology is considered to be one of the most environment friendly technologies available as the operation of the wind power plants do not emit any GHGs or any other harmful gases unlike the operation of conventional power plants.

Specification of S64/1250 WTG Rotor: Diameter 64 m Number of rotor blades 3 Orientation Upwind/Horizontal axis Rotational speed 13.8 / 20.7 rpm Rotational direction Clockwise Rotor blade material: GRP Swept area 3217 m2 Hub height 65 m Regulation Pitch regulated	**Operational data** Cut in wind speed 3 m/s Rated wind speed: 14 m/s Cut out wind speed 25 m/s Gearbox Type Integrated 3 stage 1 planetary and 2 Helical Gear ratio 1:74.917 Manufacturer Flender – Winergy Nominal load 1390 kW Generator Type Asynchronous 4/6 pole Rotation speed 1006/1506 RPM Rated output 250/1250 kW Rated voltage: 690 V Frequency: 50 H
Specification of S70/1250 WTG: Rotor Diameter: 69.1m Number of rotor blade: 3 Orientation: Upwind/Horizontal axis Rotational speed: 13.2 / 19.8 rpm Rotational direction: Clockwise Rotor blade material: GRP Swept area: 3750 m2 Hub height: 74 m Regulation: Pitch regulated	**Operational data** Cut in wind speed: 3 m/s Rated wind speed: 12 m/s Cut off wind speed: 20 m/s Gearbox Type: Integrated 3 stage 1 planetary and 2 Helical Gear ratio: 1:77.848 Manufacturer: Flender – Winergy Nominal load: 1390 KW Generator Type: Asynchronous 4/6 pole Rotation speed: 1000/1515 RPM Rated output: 250/1250 KW Rated voltage: 690 V Frequency: 50 Hz
Specification of S66-1250kW WTG: Rotor Diameter: 66 m Number of rotor blade: 3 Orientation: Upwind/Horizontal axis Rotational speed: 13.5 / 20.3 rpm Rotational direction: Clockwise Rotor blade material: Epoxy bonded fiber glass Swept area: 3217 m2 Hub height: 65 m Regulation: Pitch regulated	**Operational data** Cut-in wind speed 3 m/s Rated wind speed 14 m/s Cut-off wind speed 22 m/s Survival wind speed 52.5 m/s Gearbox Type: Integrated 3 stage 1 planetary and 2 Helical Gear ratio: 1:74.9 Manufacturer: Flender – Winergy Nominal load: 1390 KW Type of cooling: Oil cooling system, Forced lubrication Generator Type: Asynchronous 4/6 pole Rotation speed: 1006/1506 RPM Rated output: 250/1250 KW Rated voltage: 690 V Frequency: 50 Hz

Control unit

• Microprocessor control with graphic backlit LCD display indicating operation conditions.
• Control includes thyristor switchgear watchdog for operation, log with real time, local control and servicing interface.
• Optional remote monitoring and operation.
• UPS back up system.

Reactive Current compensation.
Compensation: Dynamic and intelligent, with PF greater than 0.9

WTG ID	WTG No	Commissioning Date	Survey No	Village	Taluka/District
V05	SEL/1250/05-06/0156	18/07/2006	34/2	Motisindhodi	Abdasa,/ Kutch
M16	SEL/1250/06-07/0224	22/12/2006	114p	Kadoli	
ADO-33	SEL/1250/11-12/2441	09/08/2012	289/8P/p1	Ratanpar	Porbandar

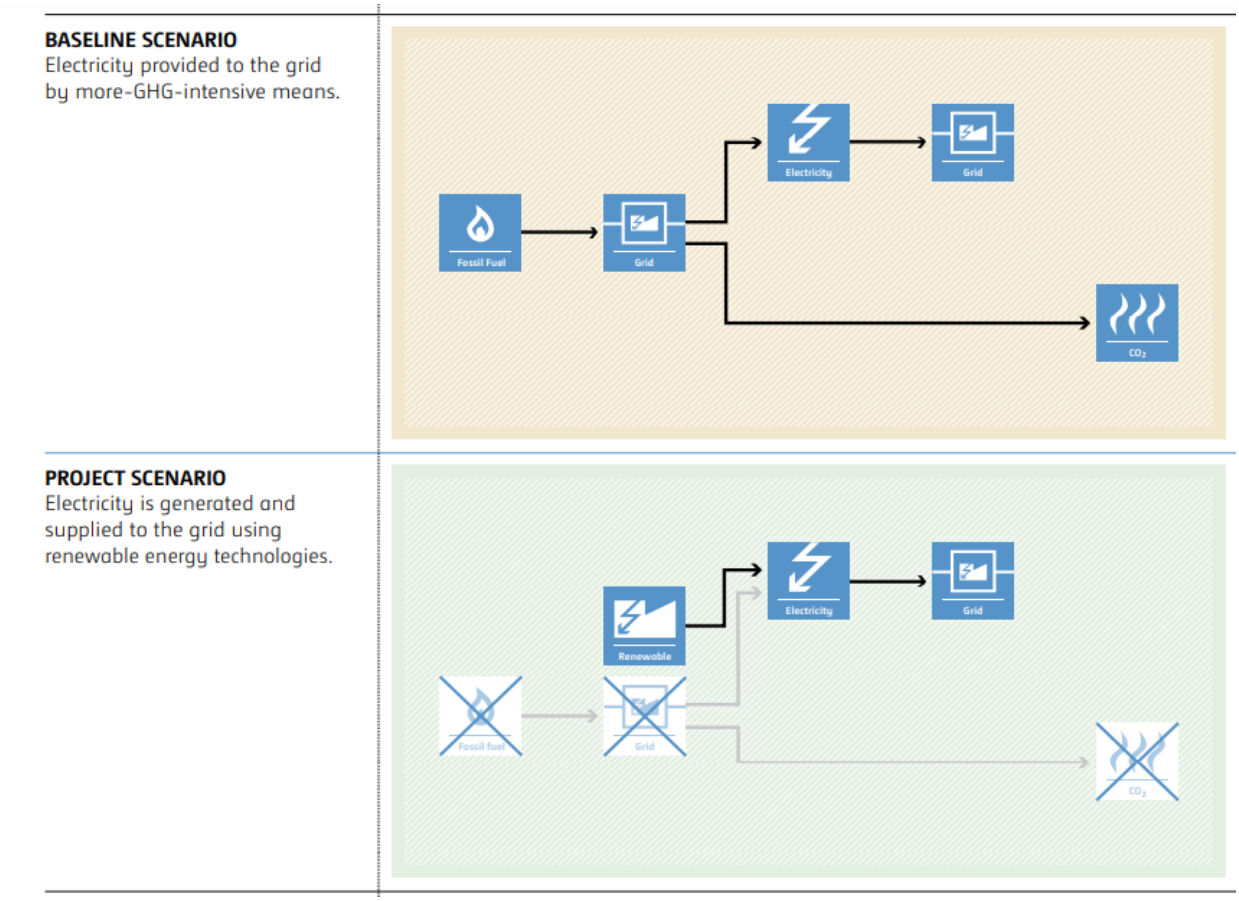
Trivector meters of accuracy class 0.2 S will be used to monitor the electricity imported from and exported to grid. This meter will be located at the pooling substation. The meters are under the control of the state utility company. The meters are tested/calibrated at least once in three years by Suzlon through a third party agency.

A.5. Parties and project participants >>

The project activity is deployed taking into consideration all aspects of environmentally safe and sound technology. Moreover there has been no technology transfer involved in the project activity.

Party (Host)	Participants
India	**Project Proponent**: GOKUL AGRO RESOURCES LTD (GARL), Survey No: 76/01/P-1, 80,89 and 91, Village – Meghpar Borichi, Ta – Anjar, Dist: Bhuj Gujarat - 370110 **Contact:** Hemal S. Sonigra, ISO Coordinator, GARL **Email:** iso@gokulagro.com

A.6. Baseline Emissions>>



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

- 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), which is carbon intensive due to predominantly sourced from fossil fuel-based power plants. 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.

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.

A.7. Debundling>>

This project activity is not a debundled component of a larger carbon or GHG registered project activity.

SECTION B. Application of methodologies and standardized baselines

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

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

TYPE I - Renewable Energy Projects

Table 1 Scope of AMS-I.D., AMS-I.F. and AMS-I.A. based on project types

	Project type	AMS-I.A.	AMS-I.D.	AMS-I.F.
1	Project supplies electricity to a national/regional grid		√	
2	Project displaces grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid)			√
3	Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)		√	
4	Project supplies electricity to a mini grid[1] system where in the baseline all generators use exclusively fuel oil and/or diesel fuel			√
5	Project supplies electricity to household users (included in the project boundary) located in off grid areas	√		

Source: UNFCCC CDM

CATEGORY- ***AMS-I.D. – Small-scale Methodology Grid connected renewable electricity generation, Version 18.0***

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.

Methodology key requirements:

Typical project(s)	Typical project(s) Construction and operation of a new power plant/unit or retrofit, rehabilitation (or refurbishment), replacement or capacity addition of an existing power plant that uses renewable energy sources and supplies electricity to the grid
Type of GHG emissions mitigation action	Renewable energy. Displacement of electricity that would be provided to the grid by more-GHG-intensive means

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

This project is included within the UCR Standard Positive List of technologies and are within the small-scale CDM thresholds (e.g. installed capacity up to 15 MW). The positive list comprises of: (a) renewable electricity generation technologies of installed capacity up to 15 MW, (wind power electricity generation);
Project activity involves installation of wind power generation with capacity 3.75 MW which is less than 15MW. The proposed project is a greenfield 3.75 MW wind power project, i.e., the only component is a renewable power project below 15 MW
The project activity involves installation of WTGs, hence, the activity is not a hydro power project or combined heat and power (co-generation) systems.
Project displaces grid electricity consumption (e.g. grid import).
The project activity is a new installation, it does not involve any retrofit measures nor any replacement.
Landfill gas, waste gas, wastewater treatment and agro-industries projects are not relevant to the project activity. No biomass is involved, the project is only a wind power project.
The technology/measure allowed under the grid connected wind power generation systems displace equivalent quantity of electricity from the regional grid in India. The testing/certifications; all the equipment of the wind power project activity will be complying with applicable national/ international standards. The above details may be verified from one or more of the following documents: □ Technology Specification provided by the technology supplier □ Purchase order copies □ EPC contracts □ Power purchase agreement □ Project commissioning certificates
The project activity is a voluntary coordinated action. The project activity is a 3.75 MW Wind Power based renewable electricity generation project. It does not include any non-renewable unit and cofiring system.
As per 'Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India)', final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (07/03/2016), it has been declared that a wind project activity falls under the "White category". White Category projects/industries do not require any environmental clearance such as 'Consent to Operate' from PCB as such project does not lead to any negative environmental impacts. Additionally, as per Indian Regulation, Environmental and Social Impact Assessment is not required for wind projects. Additionally, there are social, environmental, economic and technological benefits which contribute to sustainable development.
This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass that supply electricity to user(s). Hence this methodology is applicable and fulfilled for the wind project activity.
The project activity involves installation of new wind power plants at listed sites where there was no renewable energy power plant operating prior to implementation of project.
Project and leakage emissions from biomass are not applicable.

B.3. Applicability of double counting emission reductions >>

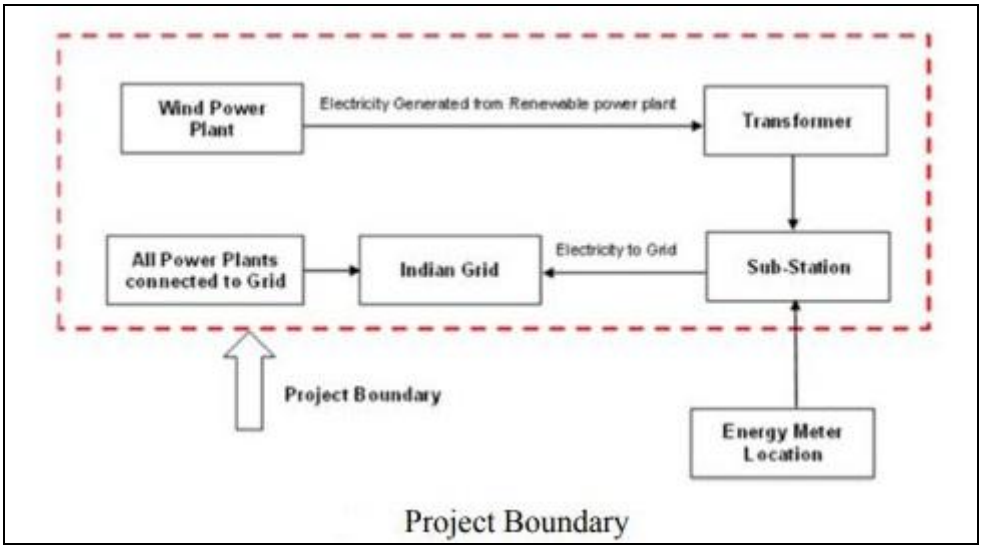
The renewable electricity units are digitally monitored with unique energy meters located within the project activity boundary. The project activity will not apply to India's NDC carbon ecosystem/market and **has not been issued** carbon credits under any other GHG mechanism for carbon offsets/credits **for the vintage years 2013-2022**. Further details are explained in Section B.6.

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

As per applicable methodology AMS-I.D. Version 18, "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system

that the project power plant is connected to."

Hence, the project boundary includes the project site where the power plant has been installed, associated power evacuation infrastructure, energy metering points, switch yards and other civil constructs and the connected grid of India.



	Source	GHG	Included?	Justification/Explanation
Baseline	CO2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity	CO_2	**Included**	Major source of emission
		CH_4	Excluded	Excluded for simplification. This is conservative
		N_2O	Excluded	Excluded for simplification. This is conservative
Project Activity	Greenfield wind power project	CO_2	Excluded	Excluded for simplification. This is conservative
		CH_4	Excluded	Excluded for simplification. This is conservative
		N_2O	Excluded	Excluded for simplification. This is conservative

As per para 19 of AMS-I.D., v18.0, "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."

Project activity delivers electricity to Indian grid. In the absence of the project activity same amount electricity would have been generated in which the electricity is generated by the fossil fuel intensive power plant.

Para 22 of AMS-I.D., v18.0 calculates baseline emissions as:

$$BE_y = EG_{BL,yl} \times EF_{,CO2,GRID,y}$$

Where,
BE_y = Baseline Emissions in year y; t CO2

$EG_{BL,y}$ = Quantity of net electricity supplied to the grid as a result of the implementation of the UCR project activity in year y (MWh)

$EF_{Grid,CO2,y}$ = CO_2 emission factor of the grid in year y (t CO_2/MWh) as determined by the UCR Standard.

Emission reduction (ERy): The project activity mainly reduces carbon dioxide through substitution of grid electricity generation with fossil fuel fired power plant by renewable electricity.

The emission reduction ERy by the project activity during a given year y is the difference between Baseline emission and Project emission & Leakage emission.

The emission reduction is calculated in line with para 43 of 'AMS-I.D.- Grid connected renewable electricity generation', v18.0, using equation below

$$ERy = BE_y - PE_y - LE_y$$

Where,
BEy = Baseline emission in tCO2/year
PEy = Project emissions in tCO2/year
LEy = Leakage Emissions in tCO2/year

Project Emissions: As per applied methodology 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, hence

PEy= 0.

Leakage Emissions: As per applied methodology no source of leakage emissions identified under proposed project activity.

Hence, **LEy= 0**

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

The baseline scenario identified at the PCN (ver 1.0) stage of the project activity is:

- *The product of amount electricity displaced with the electricity produced by the renewable generating unit and an emission factor.*

Total Capacity: 3.75 MWh

Commissioning Date of first installation: 18/07/2006

Estimated Annual Emission Reductions: $BE_y = EG_{BL,yl} \times EF_{,CO2,GRID,y}$

BE_y = Emission reductions in a year y.

where:

$EG_{BL,y}$ = Quantity of net electricity supplied to the grid as a result of the implementation of the

UCR project activity in year y (MWh)

$EF_{Grid,CO2,y}$ = CO_2 emission factor of the grid in year y (t CO_2/MWh) as determined by the UCR Standard.

Estimated annual baseline emission reductions (BE_y) = 5430 CoUs (5430 tCO_{2eq})
ER_y = Emission reductions in year y (tCO_2/y) = **5430 CoUs (5430 tCO_{2eq})**

B.6. Prior History>>

WTGs V-05 and M-16 have been previously registered under the UNFCCC CDM as:

- Title project activity: **5 MW WIND POWER PROJECT BY GOKUL REFOILS AND SOLVENT LIMITED**
  CDM Registration Date: **07 Feb 2011**
  CDM Reference number: **4062**
  Monitoring Period: **07/02/2011 - 31/01/2012**
  CERs issued: **5956 tCO2 (**Serial Range: Block start: IN-5-175448640-1-1-0-4062 Block end: IN-5-175454595-1-1-0-4062)

WTGs ADO-33 has been previously registered under the UNFCCC CDM as:

- Title project activity: **2.5 MW Wind Project by Gokul Refoils & Solvent Limited**
  CDM Reference number: **9722**
  CDM Registration Date: **26 Aug 2013**
  No CERs have been issued till date

GARL is the de-merged entity of Gokul Refoils & Solvent Limited under which all the above CDM projects had been registered. The project activity has not claimed voluntary/verified carbon credits under any GHG mechanism for the period 2013-2022, hence the project activity will not cause double accounting of carbon offset units or credits (i.e., CoUs) under the UCR CoU Program.

B.7. Changes to start date of crediting period >>

There are no changes to the start date of the 1st crediting period.

B.8. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

This is PCN version 1.0 and hence there are no changes applicable.

B.9. Monitoring period number and duration>>

Proposed Monitoring Period: 01
1st Issuance Period: 01/01/2013-31/12/2022
1st Monitoring Period: 01/01/2013-31/12/2022
1st Crediting Period: 10 years 00 months 00 days

B.8. Monitoring plan>>

Key Data Monitored: • Quantity of net electricity generated per year

1. **Monitoring Plan Objective and Organization**

PP is the project implementer and monitors the electricity generated by the project activity. The data is already archived electronically and is stored since 18/07/2006.

To ensure that the data is reliable and transparent, the PP has established Quality Assurance and Quality Control (QA&QC) measures to effectively control and manage data reading, recording, auditing as well as archiving data and all relevant documents. The data is monitored on a daily basis and is submitted to PP on a daily basis.

PP has implemented QA&QC measures to calibrate and ensure the accuracy of metering and safety aspects of the project operation. The metering devices are calibrated and inspected properly and periodically, according to state electricity board's specifications and requirements to ensure accuracy in the readings.

Data / Parameter:	***EGy***
Data unit:	MWh
Description:	Quantity of net electricity displaced in year y
Source of data:	Main Meter Unit Readings, Direct measurement.
Measurement procedures (if any):	Daily : Direct measurement using electricity meters
Monitoring frequency:	Continuously, aggregated at least annually Calibration Frequency: The calibration will be done following the relevant applicable National Guidelines updated from time to time during the operation of the project activity. Entity responsible: Utility
QA/QC procedures:	Monitoring frequency: Continuous Measurement frequency: Hourly Recording frequency: Monthly The electricity meter will be subject to regular maintenance and testing in accordance with the stipulation of the meter supplier or national requirements. The calibration of meters, including the frequency of calibration, should be done in accordance with national standards or requirements set by the meter supplier. The accuracy class of the meters should be in accordance with the stipulation of the meter supplier or national requirements. If these standards are not available, and meter supplier does not specify, calibrate the meters every 3 years and use the meters with at least 0.5 accuracy class (e.g. a meter with 0.2 accuracy class is more accurate and thus it is accepted). In case of missing data due to meter failure or other reasons for a certain period of time, the following options to estimate electricity consumption may be applied: (a) A conservative value based on rated capacity and full operational hours (8760 hours)
Purpose of Data	-Calculation of baseline emissions

Data/Parameter	$EF_{, CO2, GRID, y}$
Data unit	tCO2 /MWh
Description	Fixed 2013-2022 -Ex-Ante
of data Value(s) applied	UCR Standard Protocol As per Standard
Measurement methods and procedures	Fixed
Monitoring frequency	NA
Purpose of data	To estimate baseline emissions