



PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT



Title: 29.25 MW Wind Energy Power Project of Sri Kumaraswamy Mineral Exports Pvt Ltd by
Energy Advisory Services

Version 1.0

Date: 03/03/2023

First CoU Issuance Period: 17 Years, 00 Months

Date: 01/01/2013 to 31/12/2029¹

¹ Crediting Period is considered referring to UCR CoU Standard August 2022, Version 6.0, Page no.6



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

BASIC INFORMATION	
Title of the project activity	29.25 MW Wind Energy Power Project of Sri Kumaraswamy Mineral Exports Pvt Ltd by Energy Advisory Services
Scale of the project activity	Large Scale
Completion date of the PCN	03/03/2023
Project participants	M/S Sri Kumaraswamy Mineral Exports Private Limited (SKMEPL)
Host Party	India
Applied methodologies and standardized baselines	CDM UNFCCC Methodology ACM0002: Grid-connected electricity generation from renewable sources --- Version 20.0 ¹
Sectoral scopes	01 Energy industries (Renewable/Non-Renewable Sources)
Estimated amount of total GHG emission reductions in 17 years, 00 months	3,136,425 CoUs (3,136,425 tCO _{2eq})
Estimated amount of total GHG emission reductions annually	184,485 CoUs (184,485 tCO _{2eq})

SECTION A. Description of project activity

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

The project 29.25 MW Bundled MW Wind Energy Project By M/S Sri Kumarswamy Mineral Exports Private Limited (SKMEPL) is located at Dindigul, Devarkulam & Vellapaneri of Tamil Nadu state, Country India.

The details of the 29.25 MW bundled project are as follows:

1. 1.25 x 9 i.e. 11.25 MW Wind Power Project by SKEMPL at Dindigul, Tamil Nadu.
2. 1.5 x 5 i.e. 7.5 MW Wind Power Project by SKEMPL at Devarkulam, Tamil Nadu.
3. 2.1 x 5 i.e. 10.5 MW Wind Power Project by SKEMPL at Vellapaneri, Tamil Nadu.

Purpose of the project activity:

The purpose of the project activity is to utilize renewable wind energy for generation of electricity. The project activity replaces anthropogenic emissions of greenhouse gases (GHG's) into the atmosphere, by displacing the equivalent amount of electricity generation through the operation of existing fuel fossil fuel-based power plants and future capacity expansions connected to the grid. In the absence of the project activity the equivalent amount of electricity would have been generated from the fossil fuel-based power plant. Whereas the electricity generation from operation of Wind Energy Convertors (WEC) is emission free.

The main purpose of the project activity is the implementation and operation of 29.25MW wind energy turbines to generate electricity in Tamil Nadu. SKEMPL is the promoter of these wind farms. The project activity consists of 19 wind electric generators (WEGs) installed in different phases at three locations within Tamil Nadu. The generated electricity from WEGs is connected to state electric utility namely Tamil Nadu State Electricity Board (TNEB) transmitted through state electric grid.

The project implementation schedule is placed below:

Capacity (MW)	WTG No	WTG Make	Location (State – Tamil Nadu)	Date of Commissioning
1.25	HT.SC.N O. D267	Suzlon	Dindigul	22/03/2014
1.25	HT.SC.N O. D268	Suzlon	Dindigul	22/03/2014
1.25	HT.SC.N O. D269	Suzlon	Dindigul	22/03/2014
1.25	HT.SC.N O. D270	Suzlon	Dindigul	29/03/2014
1.25	HT.SC.N O. D271	Suzlon	Dindigul	29/03/2014
1.25	HT.SC.N O. D272	Suzlon	Dindigul	29/03/2014
1.25	HT.SC.N O. D273	Suzlon	Dindigul	29/03/2014
1.2	HT.SC.N	Suzlon	Dindigul	25/06/2014

5	O. D274			
1.2	HT.SC.N	Suzlon	Dindigul	03/07/2014
5	O. D275			
1.5	HT.SC.N	Suzlon	Devarkulam	29/09/2010
	O. 3361			
1.5	HT.SC.N	Suzlon	Devarkulam	23/09/2010
	O. 3312			
1.5	HT.SC.N	Suzlon	Devarkulam	29/09/2010
	O. 3368			
1.5	HT.SC.N	Suzlon	Devarkulam	25/01/2011
	O. 3472			
1.5	HT.SC.N	Suzlon	Devarkulam	25/01/2011
	O. 3473			
2.1	HT.SC.N	Suzlon	Vellapaneri	17/06/2013
	O. 4210			
2.1	HT.SC.N	Suzlon	Vellapaneri	17/06/2013
	O. 4211			
2.1	HT.SC.N	Suzlon	Vellapaneri	17/06/2013
	O. 4212			
2.1	HT.SC.N	Suzlon	Vellapaneri	17/06/2013
	O. 4213			
2.1	HT.SC.N	Suzlon	Vellapaneri	31/08/2013
	O. 4225			

The project will generate approximately 204,984 MWh of electricity per annum. The net generated electricity from the project activity is for selling it to Tamil Nadu state electricity board by the project proponent (PP). A Power Purchase Agreement is signed between PP and Tamil Nadu state electricity board. 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 CO₂e emission reduction by the project activity is expected to be 184,485 t/CO₂, whereas actual emission reduction achieved during the first CoU period shall be submitted as a part of first monitoring and verification.

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.

Social benefits:

- The project activity will lead to the development of supporting infrastructure such as road network etc., in the wind park location, the access to which is also provided to the local population.
- The project activity will lead to alleviation of poverty by establishing direct and indirect benefits through employment generation and improved economic activities by strengthening of local grid of the state electricity utility.
- Use of a renewable source of energy reduces the dependence on imported fossil fuels and associated price variation thereby leading to increased energy security.

Environmental benefits:

- The project activity employs renewable energy source for electricity generation instead of fossil fuel-based electricity generation which would have emitted gaseous, liquid and/or solid effluents/wastes.
- Being a renewable resource, using wind energy to generate electricity contributes to resource conservation. Thus, the project causes no negative impact on the surrounding environment and contributes to environmental well-being.

Economic benefits:

- The project activity requires temporary and permanent, skilled and semi-skilled manpower at the wind park; this will create additional employment opportunities in the region.
- The generated electricity will be fed into the NEWNE regional grid through local grid, thereby improving the grid frequency and availability of electricity to the local consumers (villagers & sub-urban habitants) which will provide new opportunities for industries and economic activities to be setup in the area thereby resulting in greater local employment, ultimately leading to overall development.

Technical benefits:

- Increased interest in wind energy projects will further push R&D efforts by technology providers to develop more efficient and better machinery in future.

A.3. Location of project activity >>

As the windmills are installed in different locations of Tamilnadu state, the locations are mentioned in tabular form.

Country	India				
Site name	Maywadi Site (1.25 MW x 9 WTG's)				
Village	2 Nos. In Melkaraipatti	2 Nos. In Kovilammapatti	3 Nos. In Thalaiyuthu	1 No. In Manur	1 No. In Akkaraipatti
District	Dindigul	Dindigul	Dindigul	Dindigul	Dindigul
State	Tamil Nadu	Tamil Nadu	Tamil Nadu	Tamil Nadu	Tamil Nadu
Pin Code	624617	624618	627357	627201	637503

Country	India	
Site name	Devarkulam Site (1.5 MW x 5 WTG's)	
Village	3 Nos. In Ettankulam	2 Nos. In Maranthai

District	Tirunelveli	Tirunelveli
State	Tamil Nadu	Tamil Nadu
Pin Code	627201	627851

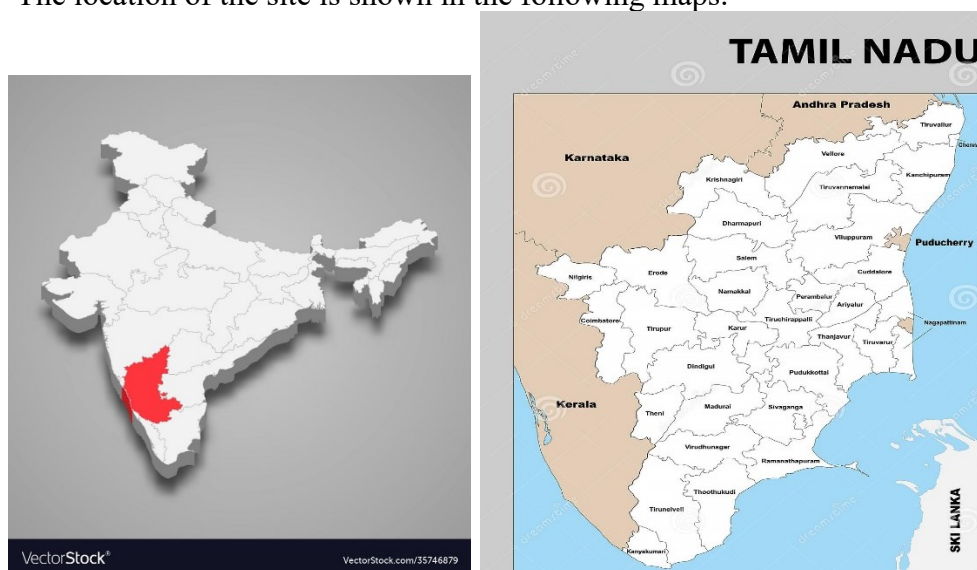
Country	India	
Site name	Vellapaneri Site (2.1 MW x 5 WTG's)	
Village	1 No. In Moviruthali	4 Nos. In Sundankurichi
District	Tirunelveli	Tirunelveli
State	Tamil Nadu	Tamil Nadu
Pin Code	627951	627951

The project is located at Melkaraipatti, Kovilammapatti, Thalaiyuthu, Manur & Akkaraipatti villages (all under Maywadi site) in Dindigul district and at Ettankulam & Maranthai villages (both under Devarkulam site) in Tirunelveli district and at Moviruthali & Sundankurichi (both under Vellapaneri site) in Tirunelveli district of Tamilnadu state, India. On Maywadi site of Dindigul district windmills of capacity 9 x 1.25 MW are installed. On Devarkulam site of Tirunelveli district windmills of capacity 5 x 1.5 MW are installed. On Vellapaneri site of Tirunelveli district windmills of capacity 5 x 2.1 MW are installed.

Latitudes and longitudes of each site are mentioned in table below

LOC_NO	Site Name	VILLAGE	LONGITUDE	LATITUDE
E789	Maywadi(Dindigul District)	Kovilammappatti	E77 27 46.6	N10 34 04.1
PPT139	Maywadi(Dindigul District)	Thalaiyuthu	E77 27 11.4	N10 31 45.5
PPT141	Maywadi(Dindigul District)	Akkaraipatti	E77 28 13.1	N10 31 09.8
PPT142	Maywadi(Dindigul District)	Manur	E77 27 47.1	N10 30 28.7
PUT16	Maywadi(Dindigul District)	Thalaiyuthu	E77 26 23.6	N10 32 12.1
PUT26	Maywadi(Dindigul District)	Melkaripatti	E77 28 14.9	N10 35 20.7
PUT27	Maywadi(Dindigul District)	Melkaripatti	E77 28 21.9	N10 35 02.2
PUT28	Maywadi(Dindigul District)	Kovilammappatti	E77 27 59.4	N10 33 32.1
PUT29	Maywadi(Dindigul District)	Thalaiyuthu	E77 27 18.2	N10 32 59.2
VL98	Vellapaneri(Tirunelveli District)	Sundankurchi	E77 40 30.9	N8 58 51.8
VL101	Vellapaneri(Tirunelveli District)	Sundankurchi	E77 40 34.2	N8 58 19.0
VL104	Vellapaneri(Tirunelveli District)	Sundankurchi	E77 40 28.8	N8 59 20.5
VL105	Vellapaneri(Tirunelveli District)	Movirunthali	E77 40 43.1	N8 59 46.5
VL99	Vellapaneri(Tirunelveli District)	Sundankurchi	E77 40 12.6	N8 58 37.2
M35	Devarkulam(Tirunelveli District)	Ettankulam	E77 35 37.5	N8 51 43.2
M52	Devarkulam(Tirunelveli District)	Maranthai	E77 34 32.3	N8 50 44.5
M51	Devarkulam(Tirunelveli District)	Maranthai	E77 34 37.3	N8 51 04.1
M76	Devarkulam(Tirunelveli District)	Ettankulam	E77 37 59.0	N8 51 45.3
M82	Devarkulam(Tirunelveli District)	Ettankulam	E77 36 24.9	N8 50 56.1

The location of the site is shown in the following maps.



(Google images of site are not attached as the exact co-ordinates of sites are not known).

Physical location address of the project:

M/S Sri Kumaraswamy Mineral Exports Private Limited (SKMEPL)

Site locations are mentioned in table below:

Country	India				
Site name	Maywadi Site				
Village	Melkaraipatti	Kovilammappatti	Thalaiyuthu	Manur	Akkaraipatti
District	Dindigul	Dindigul	Dindigul	Dindigul	Dindigul
State	Tamilnadu	Tamilnadu	Tamilnadu	Tamilnadu	Tamilnadu
Pin Code	624617	624618	627357	627201	637503

Country	India	
Site name	Devarkulam Site	
Village	Ettankulam	Maranthai
District	Tirunelveli	Tirunelveli
State	Tamilnadu	Tamilnadu
Pin Code	627201	627851

Country	India	
Site name	Vellapaneri Site	
Village	Moviruthali	Sundankurichi
District	Tirunelveli	Tirunelveli
State	Tamilnadu	Tamilnadu
Pin Code	627951	627951

A.4. Technologies/measures >>

The bundled project activity consists of multiple Wind turbines of 1.25 MW, 1.5 MW and 2.5 MW respectively manufactured and supplied by Suzlon. The primary driver for the development of the turbines commitment to make wind energy more accessible - in terms of technology, yield and cost.

In wind energy generation, kinetic energy of wind is converted into mechanical energy and subsequently into electrical energy. Wind has considerable amount of kinetic energy when blowing at high speeds. This kinetic energy when passes through the blades of the WEG is converted into mechanical energy and rotates the wind blades. When the wind blades rotate, the connected generator also rotates, thereby producing electricity. The technology is a clean technology since there are no GHG emissions associated with the electricity generation.

Main component of the windmill is explained below:

Main Tower

This is a very tall structure with a door and inside ladder at the bottom. The door is used to enter into the tower for operation and maintenance.

Blades

The wind mills are provided with three blades. The blades are self-supporting in nature made up of Fibre Reinforced Polyester. The blades are mounted on the hub.

Nacelle

The Nacelle is the one which contains all the major parts of a wind mill. The nacelle is made up of thick rugged steel and mounted on a heavy slewing ring. Under normal operating conditions, the nacelle would be facing the upstream wind direction.

Hub

The Hub is an intermediate assembly between the wing and the main shaft of the wind turbine. Inside the hub, a system to actuate the aerodynamic brake is fitted. The hub is covered with nose cone.

Main Shaft

The shaft is to connect the gear box and the hub. Solid high carbon steel bars or cylinders are used as main shaft. The shaft is supported by two bearings.

Gear Box, Bearing and Housing

The gearbox is used to increase the speed ratio so that the rotor speed is increased to the rated generator speed. Oil cooling is employed to control the heating of the gearbox. Gearboxes are mounted over dampers to minimize vibration. The main bearings are placed inside housing.

Brake

Brake is employed in the WEGs to stop the wind turbine mainly for maintenance check. Brakes are also applied during over speed conditions of the wind turbine. The brakes are placed on the high-speed shaft.

Generator

The generator uses induction type of generator. The generators are provided with monitoring sensors in each phase winding to prevent damage to the generators.

Some of the salient features of the project equipment can be found in the below mentioned table

Parameter	S-66, Mark II , 1250 KW	S-82, 1500 KW	S-88, 2100 KW
Make	Suzlon	Suzlon	Suzlon
Model	S-66, Mark II	S-82	S-88
Rating in kW	1250 KW	1500kW	2100kW
Rotor Diameter	66 m	82 m	88 m
Hub height	78.5 m	76.8 m	80 m & 100 m
Type of Tower	Tubular	Tubular	Tubular
No. of Blades	Three	Three	Three
Power Regulation	Pitch	Pitch	Pitch
Type of Generator	Asynchronous	Synchronous	Synchronous
Rated Voltage		690 V	690/600 V
Single/Dual/Variable Speed	Variable Speed	Variable Speed	Variable Speed
Geared/Gearless	Geared	Geared	Geared
Cut-in Wind speed	3.5 m/s	4.0 m/s	4.0 m/s
Rated Wind speed	13.5 m/s	12 m/s	14 m/s
Cut-out Wind speed	25 m/s	20m/s	25 m/s
Swept Area		5281 m ²	6082 m ²

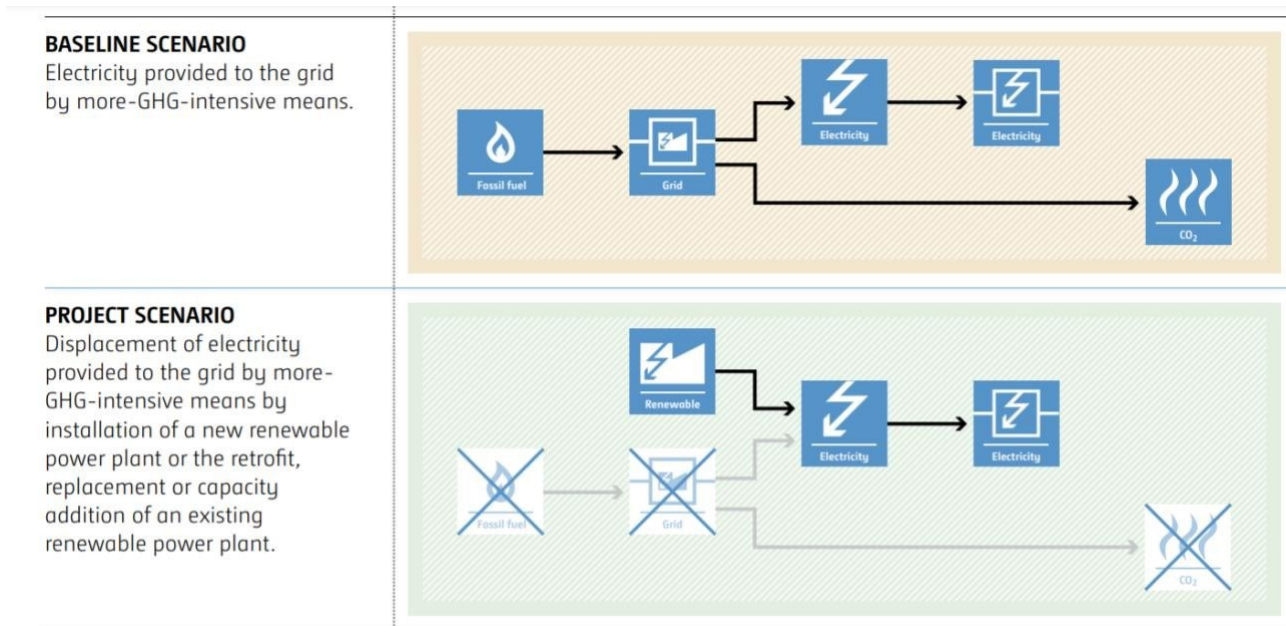
A.5. Parties and project participants >>

Party (Host)	Participants
India	M/S Sri Kumaraswamy Mineral Exports Private Limited. No.24, II Link, Parvathy Nagar Bellary - 583102 Karnataka

A.6. 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), 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:



A.7. Debundling>>

This “29.25 Bundled MW Wind Energy Project By SKEMPL” project is not a debundled component of a larger 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

CATEGORY - ACM0002 Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources Version 20.0

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

The project activity involves generation of grid connected electricity from the construction and operation of a new wind power-based power project for supply to grid. The project activity has installed capacity of 29.25 MW which qualifies for a large-scale project activity. The project status is corresponding to the methodology ACM0002 version 20.0 and applicability of methodology is discussed below:

Applicability Criterion	Project Case
4. This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in (an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s).	The project activity is a Renewable Energy Project i.e., Wind Power Project which falls under applicability criteria option 1 (a) i.e., “Install a Greenfield power plant”. Hence the project activity meets the given applicability criterion.
5. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in an existing reservoir with no change in the volume of reservoir; ACM0002 Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources Version 20.0 Sectoral scope(s): 01. The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m ² ; (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/m ² .	The project is installation of new wind-based electricity generation plants (not a hydro power plant). Hence this criterion is not applicable.
6. 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 Large-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 is wind power project and thus the criterion is not applicable to this project activity.

7. Combined heat and power (co-generation) systems are not eligible under this category	The project is wind power project and thus the criterion is not applicable to this project activity.
8. 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 ¹ from the existing units	The project is a greenfield wind power project and does not involve in capacity addition and thus the criterion is not applicable to this project activity.
9. In the case of retrofit, rehabilitation or replacement, to qualify as a Large-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW.	The project activity is Greenfield and there is no switching of fossil fuel to renewable energy. Hence the criteria is not applicable to the project activity
10. In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid, then the baseline for the electricity	This project is a wind power project and hence the criteria is not applicable.

component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as “AMS-I.C.: Thermal energy production with or without electricity” shall be explored.	
11. In case biomass is sourced from dedicated plantations, the applicability criteria in the tool “Project emissions from cultivation of biomass” shall apply.	The project is not a biomass fired power plant. Hence the criteria is not applicable to the project activity.

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

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

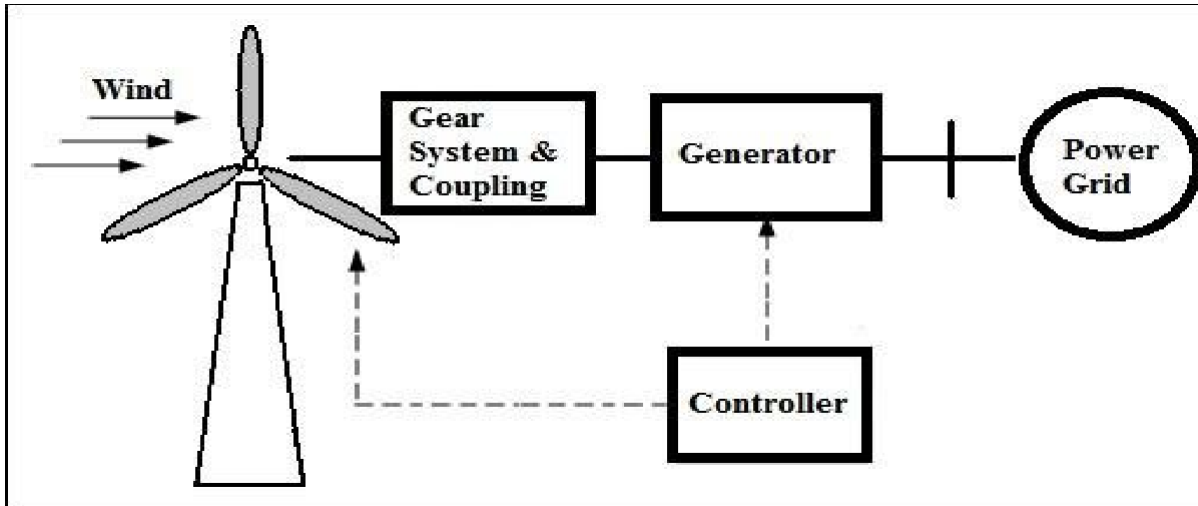
- Project is uniquely identifiable based on its location coordinates,
- Project has dedicated commissioning certificate and connection point,
- Project is associated with energy meters which are dedicated to the consumption point for project developer.

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

As per applicable methodology ACM0002 version 20.0, the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the UCR project power plants are connected. Thus, the project boundary includes the Wind Turbine Generators (WTGs) and the Indian grid system.

The project boundary includes the physical, geographical site(s) of:

	Source	GHG	Included?	Justification/Explanation
Baseline	Grid connected electricity generation	CO2	Yes	Main source of emission
		CH4	Excluded	Minor source of emission
		N2O	Excluded	Minor emission source
Project Activity	Greenfield Wind Power Project Activity	CO2	Excluded	No CO2 emission are emitted from the project
		CH4	Excluded	CH4
		N2O	Excluded	No other emissions are emitted from the project



B.5. Establishment and description of baseline scenario) >>

As per the approved methodology ACM0002 version 20.0, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

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. Also, for the vintage 2021 and 2022, the combined margin emission factor calculated from CEA database in India results into higher emission than the default value. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.

Net GHG Emission Reductions and Removals:

Thus, $ER_y = BE_y - PE_y - LE_y$

Where:

ER_y = Emission reductions in year y (tCO₂/y)

BE_y = Baseline Emissions in year y (t CO₂/y)

PE_y = Project emissions in year y (tCO₂/y)

LE_y = Leakage emissions in year y (tCO₂/y)

Baseline emissions

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired 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:

$BE_y = EGPJ, \times EF_{grid,y}$

Where:

BE_y = Baseline emissions in year y (t CO₂/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 UCR project activity in year y (MWh/year)

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of “TOOL07: Tool to calculate the emission factor for an electricity system” (t CO₂/MWh)

Project Emissions

As per ACM0002 version 20.0, 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, $PE_y = 0$.

Leakage

As per ACM0002 version 20.0, ‘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, $LE_y = 0$

The actual emission reduction achieved during the first crediting 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 (BE_y) = 204,984 MWh/year * 0.9 tCO₂/MWh = 184,485 tCO₂e/year (i.e. 184,485 CoUs /year)

B.6. Prior History>>

The project proponent had sent prior consideration of CDM to CDM EB. However, the project was not registered with the CDM EB.

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

The start date of crediting period is 01/01/2013.

B.8. 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.

B.9. Monitoring period number and duration>>

First Issuance Period	: 17 Years, 00 months ²
Crediting Period	: 01/01/2013 to 31/12/2029
Monitoring Period	: 01/01/2013 to 31/12/2029

² As per UCR CoU standards claim CoU's from January 2013 and the earliest commissioning date of the project was 29/09/2010. So crediting period is started from 01/01/2013.

B.8. Monitoring plan>>

Data and Parameters to be monitored

The project activity essentially involves generation of electricity from wind, the employed WEG can only convert wind energy into electrical energy and cannot use any other input fuel for electricity generation. Thus, no special ways and means are required to monitor leakage from the project activity. The recording of the electricity fed to the state utility grid is carried out jointly at the incoming feeder of the state power utility.

The joint measurement is carried out once in a month in presence of both parties (the developer's representative and officials of the state power utility). Both parties sign the recorded reading.

Date/Parameter	$EG_{PJ,y}$
Data unit	MWh/yr
Description	Quantity of net electricity supplied to the grid in year y
Source of data Value(s) applied	Joint meter reading issued State electricity board for project proponent
Measurement methods and procedures	Monitoring of Generation with the help of inbuilt control panel meters: This generation data will be measured continuously with the help of inbuilt control panel meters located at individual WEGs. The Technicians will record the generation data at CMS. Monitoring of Net export of electricity to grid from WTG's connected to Common Meters: The reading from State electricity board meter will be recorded every month by State electricity board personnel in the presence of site Engineer. The State electricity board will apply the apportioning logic and issues the JMR which provided the "Net export of electricity by each WTG" or "Net export of electricity by each project promoter" accordingly the PP raises invoices.
Monitoring frequency	Monitoring continuously and recording monthly. The accuracy of the main meter and check meter can be verified by comparing with each other. The calibration of the common meters (main & check meter) will be done by state utility normally once in five years.
Purpose of data	To calculate baseline emission

United Nations Sustainable Development Goals:

The project activity generates electrical power using wind energy which is generated from windmills, thereby displacing non-renewable fossil resources resulting in 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:** The project would lead to reduction of approx. 184,485 tCO₂ per annum due to implementation of project activity.
- **SDG 7: Affordable and Clean Energy:** The project is generating approx. 204,984 MWh of clean energy per annum.
- **SDG 8: Decent Work and Economic Growth:** The project is providing direct employment to around 05 persons. The project leads to Trainings & workshops which are conducted for the O&M staff of the PP.

Sustainable Development Goals (SDG) outcomes

Development Goals Targeted	SDG Target	Indicator (SDG Indicator)
SDG 7: Affordable and Clean Energy	7.2: By 2030, increase substantially the share of renewable energy in the global energy mix Target: 204,984 MWh 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: 1 no. annually Employment of 05 staff	8.5.1: Average hourly earnings of female and male employees, by occupation, age and persons with disabilities
SDG 13: Climate Action	13.2: Integrate climate change measures into national policies, strategies and planning Target: 184,485 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)
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