PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT

Title: 228 MW Bundled Wind Projects in RJ, MP and Maharashtra, India.

Version 2.0

Date of PCN: 05/04/2024

1st CoU Issuance Period: 01/01/2013 to 31/12/2022 (10 years)

1st Monitoring Period: 01/01/2013 to 31/12/2022 (10 years)

1st Crediting Period: 01/01/2013 to 31/12/2022 (10 years)

Project Concept Note (PCN)

CARBON OFFSET UNIT (CoU) PROJECT

BASIC INFORMATION	
Title of the project activity	**228 MW Bundled Wind Projects in Rajasthan, Madhya Pradesh and Maharashtra, India.**
Scale of the project activity	Large Scale
Completion date of the PCN	05/04/2024
Project participants	**Project Proponents**: Leap Green Energy Private limited. Coimbatore 641004, Tamilnadu. **UCR Aggregator**: Inox Green Energy Service Limited *UCRID:**724964927***
Host Party	India
Applied methodologies and standardized baselines	Type I (Renewable Energy Projects) UNFCCC Methodology **ACM0002**: Grid-connected electricity generation from renewable sources --- Version 21.0 UCR Protocol Standard Baseline
Sectoral scopes	01 Energy industries (Renewable/Non Renewable 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 emissionreductions per year	276,302 CoUs/yr (276,302 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, **228 MW Bundled Wind Projects in RJ, MP and Maharashtra, India** is a bundle of 2 (two) renewable (wind) energy projects located at the following locations in Country: India.

Bundled Sr No	Name of Wind Farm Bundle	Installed Capacity (MW)	State	Site
1	Ivy Ecoenergy India Pvt Ltd.	164	Rajasthan (112 mw)	Dangri, Osiyan, Sadiya.
			Maharashtra (26 mw)	Bhendewade, Jadhavwadi, South Bhud
			Madhya Pradesh (26 mw)	Lahori, Nipaniya.
2	Vanilla Clean Power Pvt Ltd.	64	Rajasthan (64 mw)	Dangri.

The wind farm bundle Sr. No 01 (Ivy Eco energy) is owned by Ivy Ecoenergy India Pvt Limited. Ivy Ecoenergy India Pvt Ltd. is a special purpose vehicle (SPV) owned by Leap Green Energy Private Limited (Project Proponent or PP) 4th Floor, Caledon Square, Avinashi Road, Peelamedu, Coimbatore - 641 004 Tamilnadu. Leap Green Energy Private Limited is a fast growing and multifaceted power generating company based out of Coimbatore, India. Leap Green aims to create mass awareness on use of Green Power by committing to generation of power through renewable resources. The total installed capacity of Ivy Ecoenergy is 164 MW and consists of 89 Wind turbine generators (WTGs), out of this the 61 WTG (Inox) of capacity 2 MW and 28 WTG (Suzlon) of 1.5 MW capacities in Rajasthan, Madhya Pradesh and Maharashtra. The entire Engineering, Procurement and Construction (EPC) including Operations and Maintenance (O&M) services are provided by Inox Wind Infrastructure Services Limited.

The project has a capacity of 228 MW and has been commissioned in phases over different years. The first phase of 12 MW capacities was commissioned in March 2008, while the second phase of 30 MW capacities was commissioned in September 2009. Another 54 mw was added in july 2012. Initially this total 96 MW was owned by Gujarat Fluorochemicals, in 2017 they transferred their business ownership to Inox renewables limited. M/s. Inox Renewable (Jaisalmer) Limited i.e. the Power Producer has assigned its project to M/s. Ivy Ecoenergy India Pvt Limited keeping the registered office at 484, Kamaraj Road, Singanallur, Coimbatore - 641015, Tamilnadu (INDIA). The 132 mw capacity of wind project were owned by Inox renewables limited over the time, out of 132 mw the 68 mw capacity wind project the Inox renewables has assigned its project to Ivy Eco energy India Pvt Ltd. So the total capacity under Ivy Eco Energy is 164 MW.

The wind farm bundle Sr. No 02 (Vanilla Clean Power) is owned by Vanilla Clean Power Pvt Ltd. The total installed capacity by Vanilla power is 64 MW and consists of 32 WTG in Dangri site of Rajasthan. Initially this project was under the Inox renewables limited. M/s. Inox Renewable (Jaisalmer) Limited i.e. the Power Producer has assigned its project to M/s. Vanilla Clean Power Private Limited keeping the registered office at 484, Kamaraj Road, Uppilipalayam, Coimbatore - 641015, Tamilnadu (INDIA). M/s. Vanilla Clean Power Private Limited is a special purpose vehicle

(SPV) owned by Leap Green Energy Private Limited (Project Proponent or PP) 4th Floor, Caledon Square, Avinashi Road, Peelamedu, Coimbatore - 641 004 Tamilnadu. The entire Engineering, Procurement and Construction (EPC) including Operations and Maintenance (O&M) services are provided by M/s. Inox Wind Infrastructure Services Limited.

The generated electricity from the WTGs is connected to the state electric utility grids of Rajasthan, Madhya Pradesh and Maharashtra. The bundled wind power projects are operational activities with continuous reduction of GHGs, currently being applied for voluntary carbon offset units (CoUs) under "Universal Carbon Registry" (UCR). **The commissioning date of the first WTG in the bundle is considered as the start date of the project activity and is recorded as 30/03/2008**.

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., **307,002 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 **276,302 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.

Project's Contribution to Sustainable Development

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".

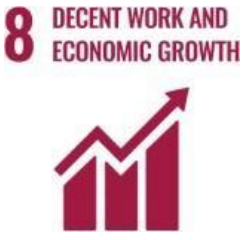
White Category projects/industries do not require any Environmental Clearance such as 'Consent to Operate' from PCB as such project does not lead to any negative environmental impacts. Additionally, as per Indian Regulation, Environmental and Social Impact Assessment is not required for Wind Projects.

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 amountof power generation would have taken place through fossil fuel dominated power generatingstations.

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:

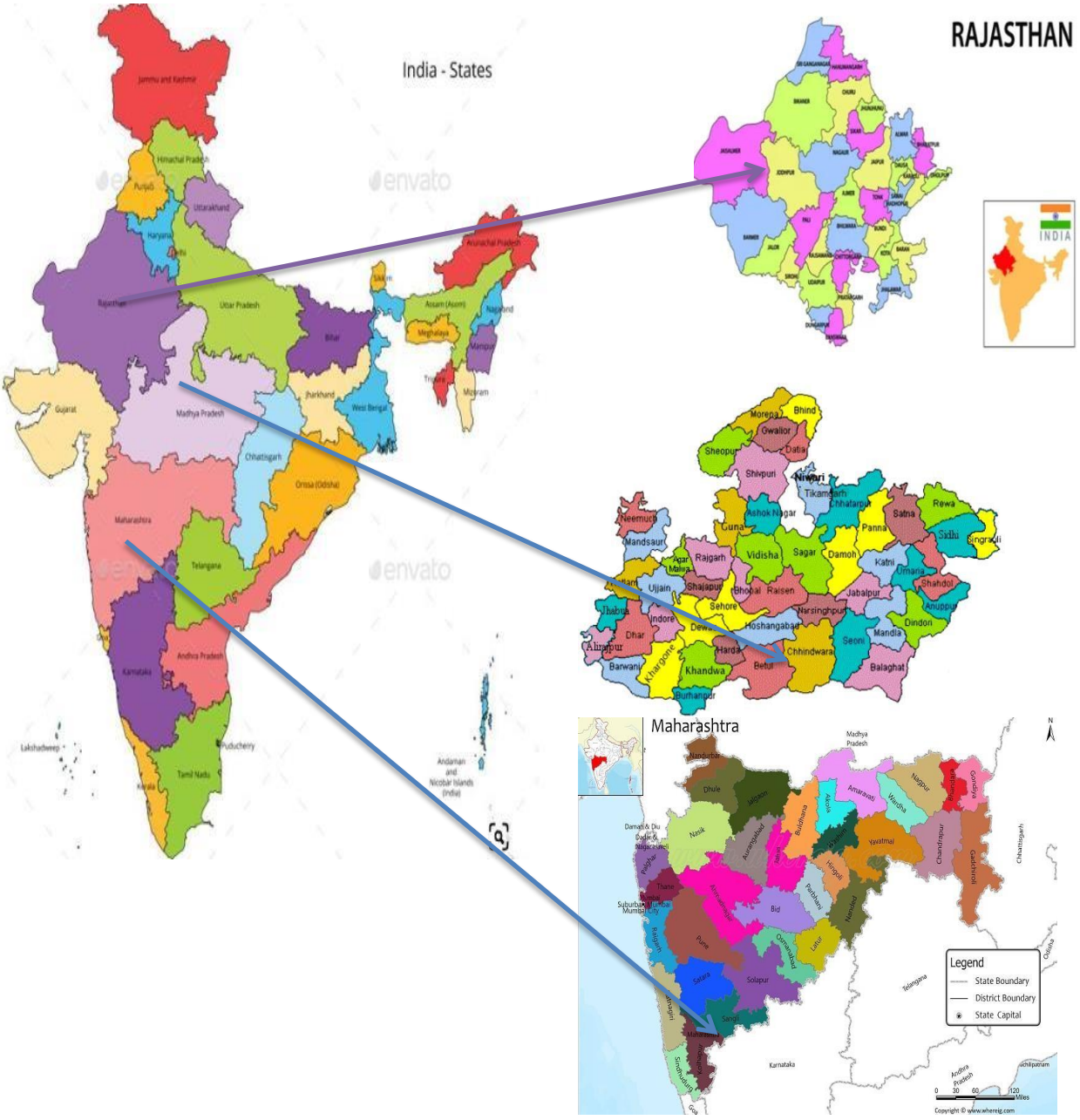
- SDG13: Climate Action
- SDG 7: Affordable and Clean Energy
- SDG 8: Decent Work and Economic Growth

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: 276,302 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 andClean Energy	7.2: By 2030, increase substantially the share of renewable energy in the global energy mix Target: 307,002 MWh per annum	7.2.1: Renewable energy share inthe total final energy consumption
 SDG 8: Decent Work andEconomic 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

A.3. Location of project activity >>

Country: India

Bundled Sr No	Name of Wind Farm Bundle	State	Site
1	Ivy Ecoenergy India Pvt Ltd.	Rajasthan (112 mw)	Dangri, Ossiyan ,Sadiya.
		Maharashtra (26 mw)	Bhendewade, South budh, Jadhav wadi.
		Madhy Pradesh (26 mw)	Lahori, Nipaniya.
2	Vanilla Clean Power Pvt Ltd.	Rajasthan (64 mw)	Dangri.



Map.

- WTG Details:

Ivy Eco energy India Pvt Ltd							
WT NO	**Site**	**District**	**State**	**Latitude**	**Longitude**	**Installed Capacity in kW**	**Commissioning date**
J437	Sadiya	Jodhpur	Rajasthan	26.91	70.97	1500	30-Mar-08
J438	Sadiya	Jodhpur	Rajasthan	26.91	70.97	1500	30-Mar-08
J433	Sadiya	Jodhpur	Rajasthan	26.9	71.03	1500	30-Mar-08
J435	Sadiya	Jodhpur	Rajasthan	26.9	71.03	1500	30-Mar-08
J431	Sadiya	Jodhpur	Rajasthan	26.89	71.02	1500	30-Mar-08
J432	Sadiya	Jodhpur	Rajasthan	26.89	71.02	1500	30-Mar-08
J434	Sadiya	Jodhpur	Rajasthan	26.89	71.03	1500	31-Mar-08
J436	Sadiya	Jodhpur	Rajasthan	26.89	71.03	1500	31-Mar-08
DANT110	Dangri	Jaisalmer	Rajasthan	26.59	71.41	2000	31-Jul-12
DANT108	Dangri	Jaisalmer	Rajasthan	26.58	71.4	2000	31-Jul-12
DANT109	Dangri	Jaisalmer	Rajasthan	26.58	71.4	2000	31-Jul-12
DANT299	Dangri	Jaisalmer	Rajasthan	26.58	71.41	2000	30-Mar-13
DANT111	Dangri	Jaisalmer	Rajasthan	26.58	71.41	2000	31-Jul-12
DANT112	Dangri	Jaisalmer	Rajasthan	26.58	71.41	2000	31-Jul-12
DANT44	Dangri	Jaisalmer	Rajasthan	26.57	71.38	2000	31-Jul-12
DANT45	Dangri	Jaisalmer	Rajasthan	26.57	71.38	2000	31-Jul-12
DANT46	Dangri	Jaisalmer	Rajasthan	26.57	71.39	2000	31-Jul-12
DANT16	Dangri	Jaisalmer	Rajasthan	26.56	71.35	2000	25-Mar-13
DANT107	Dangri	Jaisalmer	Rajasthan	26.57	71.4	2000	31-Jul-12
DANT106	Dangri	Jaisalmer	Rajasthan	26.57	71.41	2000	31-Jul-12
DANT105	Dangri	Jaisalmer	Rajasthan	26.57	71.41	2000	31-Jul-12
DANT113	Dangri	Jaisalmer	Rajasthan	26.57	71.41	2000	31-Jul-12
DANT114	Dangri	Jaisalmer	Rajasthan	26.57	71.42	2000	31-Jul-12
DANT28	Dangri	Jaisalmer	Rajasthan	26.56	71.38	2000	25-Mar-13
DANT47	Dangri	Jaisalmer	Rajasthan	26.56	71.39	2000	31-Jul-12
DANT48	Dangri	Jaisalmer	Rajasthan	26.56	71.39	2000	31-Jul-12
DANT49	Dangri	Jaisalmer	Rajasthan	26.56	71.4	2000	31-Jul-12
DANT100	Dangri	Jaisalmer	Rajasthan	26.56	71.41	2000	31-Jul-12
DANT101	Dangri	Jaisalmer	Rajasthan	26.56	71.41	2000	31-Jul-12
DANT102	Dangri	Jaisalmer	Rajasthan	26.56	71.41	2000	31-Jul-12
DANT212	Dangri	Jaisalmer	Rajasthan	26.55	71.37	2000	31-Jul-12
DANT115	Dangri	Jaisalmer	Rajasthan	26.56	71.42	2000	31-Jul-12
DANT116	Dangri	Jaisalmer	Rajasthan	26.56	71.42	2000	31-Jul-12
DANT94	Dangri	Jaisalmer	Rajasthan	26.54	71.43	2000	31-Jul-12
DANT95	Dangri	Jaisalmer	Rajasthan	26.54	71.43	2000	31-Jul-12
DANT233	Dangri	Jaisalmer	Rajasthan	26.53	71.4	2000	14-Mar-13
DANT211	Dangri	Jaisalmer	Rajasthan	26.54	71.45	2000	31-Jul-12
DANT232	Dangri	Jaisalmer	Rajasthan	26.53	71.41	2000	30-Mar-13
DANT96	Dangri	Jaisalmer	Rajasthan	26.53	71.42	2000	30-Mar-13
DANT57	Dangri	Jaisalmer	Rajasthan	26.53	71.43	2000	31-Jul-12
DANT91	Dangri	Jaisalmer	Rajasthan	26.53	71.44	2000	30-Mar-13
DANT117	Dangri	Jaisalmer	Rajasthan	26.53	71.45	2000	31-Jul-12
DANT229	Dangri	Jaisalmer	Rajasthan	26.52	71.42	2000	14-Mar-13

P020	Osiyan	Jodhpur	Rajasthan	26.78	73.05	1500	27-Sep-09
P016	Osiyan	Jodhpur	Rajasthan	26.76	73.04	1500	27-Sep-09
P017	Osiyan	Jodhpur	Rajasthan	26.76	73.05	1500	27-Sep-09
P011	Osiyan	Jodhpur	Rajasthan	26.75	73.04	1500	27-Sep-09
J741	Osiyan	Jodhpur	Rajasthan	26.75	73.05	1500	26-Sep-09
J742	Osiyan	Jodhpur	Rajasthan	26.75	73.05	1500	26-Sep-09
J743	Osiyan	Jodhpur	Rajasthan	26.75	73.05	1500	26-Sep-09
P010	Osiyan	Jodhpur	Rajasthan	26.74	73.04	1500	27-Sep-09
J745	Osiyan	Jodhpur	Rajasthan	26.74	73.05	1500	26-Sep-09
P009	Osiyan	Jodhpur	Rajasthan	26.74	73.05	1500	27-Sep-09
J746	Osiyan	Jodhpur	Rajasthan	26.74	73.06	1500	26-Sep-09
J747	Osiyan	Jodhpur	Rajasthan	26.73	73.05	1500	26-Sep-09
J748	Osiyan	Jodhpur	Rajasthan	26.72	73.05	1500	26-Sep-09
J749	Osiyan	Jodhpur	Rajasthan	26.72	73.05	1500	26-Sep-09
J750	Osiyan	Jodhpur	Rajasthan	26.72	73.05	1500	26-Sep-09
J751	Osiyan	Jodhpur	Rajasthan	26.71	73.05	1500	26-Sep-09
J752	Osiyan	Jodhpur	Rajasthan	26.71	73.06	1500	26-Sep-09
J753	Osiyan	Jodhpur	Rajasthan	26.71	73.06	1500	26-Sep-09
J754	Osiyan	Jodhpur	Rajasthan	26.7	73.05	1500	26-Sep-09
P003	Osiyan	Jodhpur	Rajasthan	26.69	73.04	1500	26-Sep-09
RVT03	Jadhavwadi	Sangli	Maharashtra	17.29	74.61	2000	31-Oct-15
SBT57	Jadhavwadi	Sangli	Maharashtra	17.27	74.6	2000	31-Oct-15
SBT24	Jadhavwadi	Sangli	Maharashtra	17.29	74.7	2000	31-Oct-15
SBT22	Jadhavwadi	Sangli	Maharashtra	17.29	74.7	2000	31-Oct-15
SBT28	Jadhavwadi	Sangli	Maharashtra	17.26	74.6	2000	31-Oct-15
RVT11	Jadhavwadi	Sangli	Maharashtra	17.26	74.6	2000	31-Oct-15
RVT15	Jadhavwadi	Sangli	Maharashtra	17.25	74.61	2000	31-Oct-15
RVT17	Jadhavwadi	Sangli	Maharashtra	17.25	74.61	2000	31-Oct-15
BHT04	Bhendewade	Kolhapur	Maharashtra	16.97	73.91	2000	30-Mar-14
BHT10	Bhendewade	Kolhapur	Maharashtra	16.97	73.92	2000	30-Mar-14
BHT23	Bhendewade	Kolhapur	Maharashtra	16.97	73.94	2000	31-Mar-14
BHT07	Bhendewade	Kolhapur	Maharashtra	16.96	73.91	2000	30-Mar-14
BHT03	Bhendewade	Kolhapur	Maharashtra	16.96	73.91	2000	31-Mar-14
LAHP018	Lahori	Shajapur	Madhya Pradesh	23.46	76.24	2000	3/26/2016
LAHR012	Lahori	Shajapur	Madhya Pradesh	23.56	76.36	2000	3/30/2016
LAHR079	Lahori	Shajapur	Madhya Pradesh	23.40	76.33	2000	3/26/2016
LH007	Lahori	Shajapur	Madhya Pradesh	23.54	76.32	2000	3/26/2016
LH008	Lahori	Shajapur	Madhya Pradesh	23.54	76.33	2000	3/30/2016
LH016	Lahori	Shajapur	Madhya Pradesh	23.53	76.37	2000	3/30/2016
LH021	Lahori	Shajapur	Madhya Pradesh	23.56	76.35	2000	3/30/2016
LH031	Lahori	Shajapur	Madhya Pradesh	23.52	76.36	2000	3/30/2016
NPY238	Nipaniya	Shahdol	Madhya Pradesh	24.30	75.63	2000	3/29/2016

NPYP3121	Nipaniya	Shahdol	Madhya Pradesh	24.25	75.59	2000	3/29/2016
NPYP52	Nipaniya	Shahdol	Madhya Pradesh	24.26	75.55	2000	3/29/2016
NPYP3153	Nipaniya	Shahdol	Madhya Pradesh	24.24	75.66	2000	3/29/2016
NPYP317	Nipaniya	Shahdol	Madhya Pradesh	24.12	75.60	2000	3/29/2016

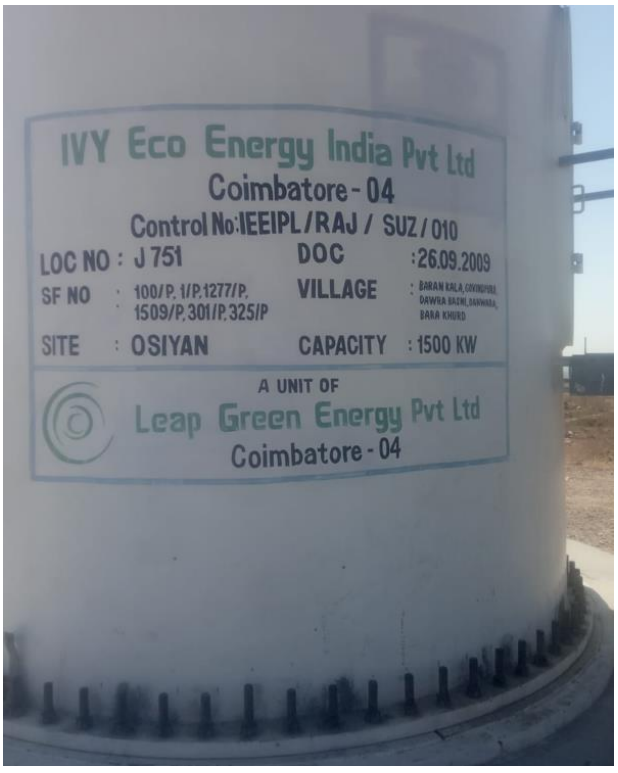
Vanilla Clean Power Pvt Ltd							
WT NO	**Site**	**District**	**State**	**Latitude**	**Longitude**	**Installed Capacity in kW**	**Date of Commissioning**
DANT19	Dangri	Jaisalmer	Rajasthan	26.57	71.37	2000	1-Nov-12
DANT222	Dangri	Jaisalmer	Rajasthan	26.56	71.34	2000	21-Jan-13
DANT104	Dangri	Jaisalmer	Rajasthan	26.57	71.4	2000	14-Mar-13
DANT17	Dangri	Jaisalmer	Rajasthan	26.56	71.36	2000	1-Nov-12
DANT18	Dangri	Jaisalmer	Rajasthan	26.56	71.36	2000	1-Nov-12
DANT223	Dangri	Jaisalmer	Rajasthan	26.56	71.37	2000	21-Jan-13
DANT21	Dangri	Jaisalmer	Rajasthan	26.55	71.36	2000	21-Jan-13
DANT20	Dangri	Jaisalmer	Rajasthan	26.55	71.36	2000	1-Nov-12
DANT22	Dangri	Jaisalmer	Rajasthan	26.55	71.37	2000	21-Jan-13
DANT23	Dangri	Jaisalmer	Rajasthan	26.55	71.37	2000	21-Jan-13
DANT99	Dangri	Jaisalmer	Rajasthan	26.55	71.41	2000	21-Jan-13
DANT53	Dangri	Jaisalmer	Rajasthan	26.54	71.4	2000	21-Jan-13
DANT52	Dangri	Jaisalmer	Rajasthan	26.54	71.4	2000	14-Mar-13
DANT98	Dangri	Jaisalmer	Rajasthan	26.54	71.42	2000	21-Jan-13
DANT228	Dangri	Jaisalmer	Rajasthan	26.54	71.42	2000	21-Jan-13

DANT140	Dangri	Jaisalmer	Rajasthan	26.55	71.5	2000	30-Mar-13
DANT90	Dangri	Jaisalmer	Rajasthan	26.53	71.44	2000	14-Mar-13
DANT92	Dangri	Jaisalmer	Rajasthan	26.53	71.44	2000	14-Mar-13
DANT118	Dangri	Jaisalmer	Rajasthan	26.53	71.45	2000	14-Mar-13
DANT139	Dangri	Jaisalmer	Rajasthan	26.54	71.5	2000	30-Mar-13
DANT120	Dangri	Jaisalmer	Rajasthan	26.53	71.46	2000	14-Mar-13
DANT62	Dangri	Jaisalmer	Rajasthan	26.52	71.42	2000	21-Jan-13
DANT226	Dangri	Jaisalmer	Rajasthan	26.51	71.43	2000	21-Jan-13
DANT63	Dangri	Jaisalmer	Rajasthan	26.51	71.43	2000	21-Jan-13
DANT64	Dangri	Jaisalmer	Rajasthan	26.51	71.43	2000	21-Jan-13
DANT65	Dangri	Jaisalmer	Rajasthan	26.51	71.43	2000	21-Jan-13
DANT227	Dangri	Jaisalmer	Rajasthan	26.5	71.43	2000	21-Jan-13
DANT66	Dangri	Jaisalmer	Rajasthan	26.5	71.43	2000	21-Jan-13
DANT67	Dangri	Jaisalmer	Rajasthan	26.5	71.43	2000	21-Jan-13
DANT68	Dangri	Jaisalmer	Rajasthan	26.5	71.43	2000	21-Jan-13
DANT42	Dangri	Jaisalmer	Rajasthan	26.49	71.4	2000	25-Mar-13
DANT225	Dangri	Jaisalmer	Rajasthan	26.49	71.4	2000	25-Mar-13

Dangri site – Vanilla clean power pvt ltd.

Sadiya site

Dangri Site – Ivy ecoenergy



Osiyan Site

a) Rajasthan Site.

South Budh site

Jadhav wadi site.

220/33 kv khanapur PSS

Bhendewade site.

b) Maharashtra site

Lahori site

Nipaniya site

Sub - station

Meter Photos

a) Madhya Pradesh Site.

A.4. Technologies/measures >>

All the machines have been developed using state of the art technology. 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.

The important parts of a windmill are:

Main Tower This is a very tall structure with a ladder at the bottom. The ladder is used for operation and maintenance.

Blades The WEGs are provided with three blades. The blades are self-supporting in nature made up of Fiber Reinforced Polyester. The blades are mounted on the hub.

Nacelle The Nacelle is the one which contains all the major parts of a WEG. 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.

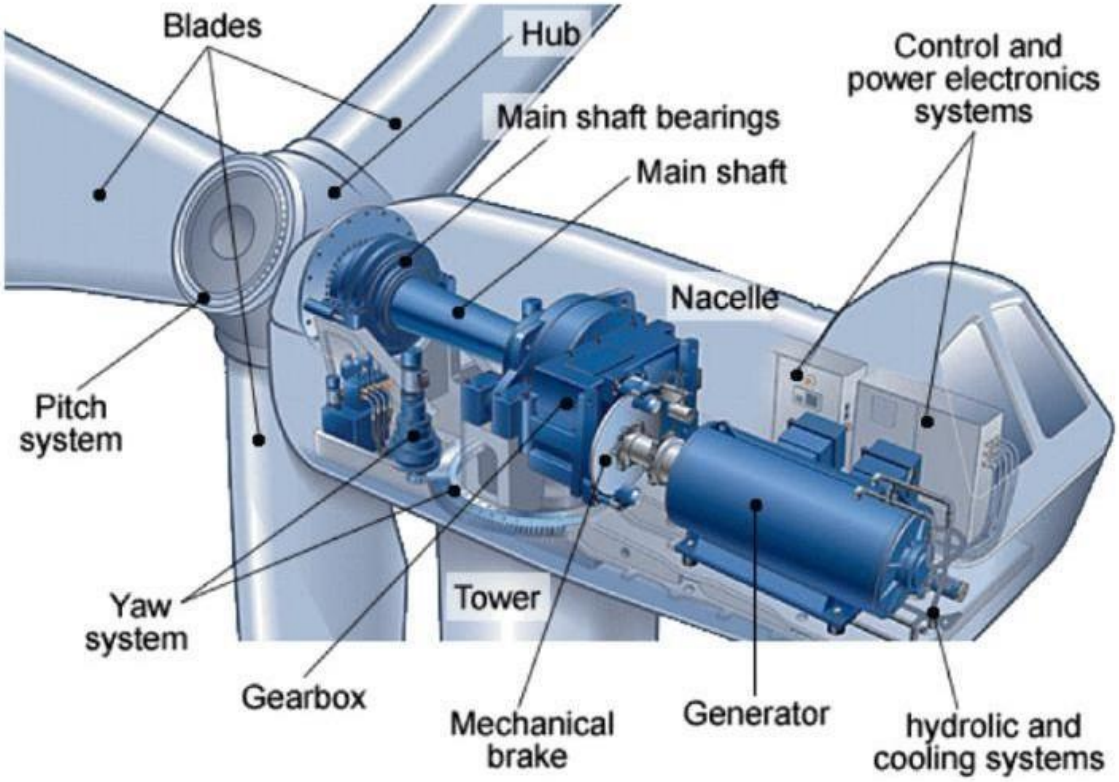
Main Shaft The shaft is to connect the gear box and the hub. Solid high carbon steel bars or cylinders are used as main shaft. The shaft is supported by two bearings.

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.

In the absence of the project activity the equivalent amount of electricity would have otherwise been generated by the operation of fossil fuel-based grid-connected power plants and fed into unified India grid system, hence baseline scenario of the project activity is the grid-based electricity system, which is also the pre-project scenario as discussed in the previous section.



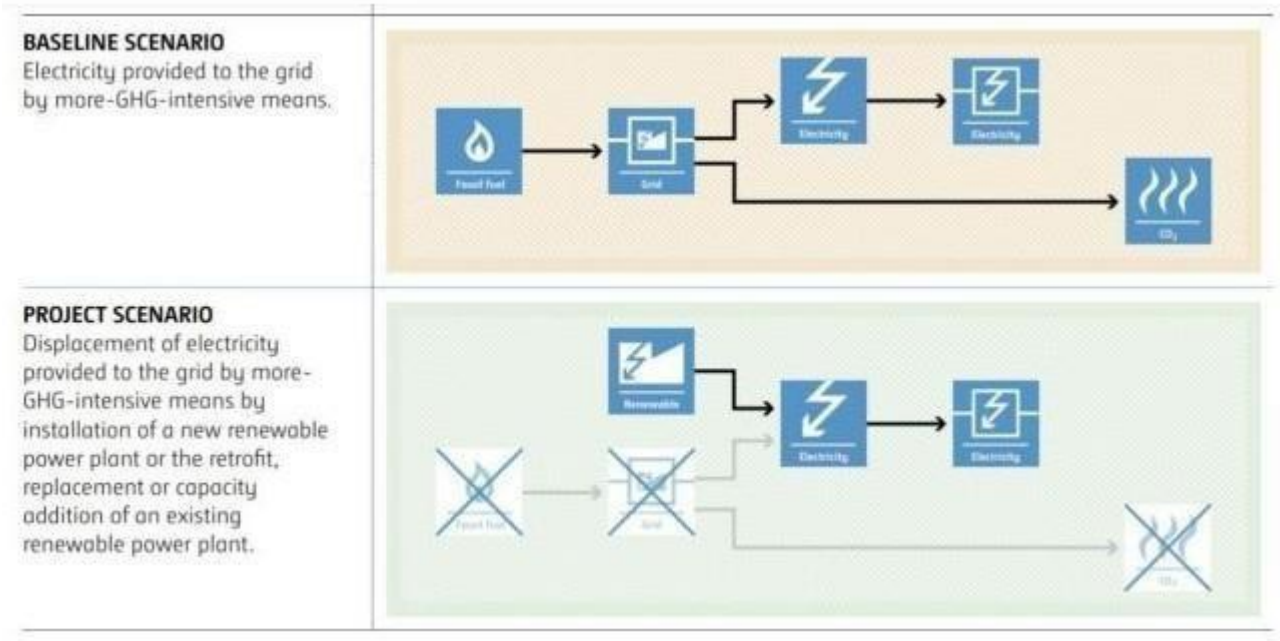
Particulars	Details
Project Activity	IVY Ecoenergy India Pvt Ltd
Project Capacity & Units	164 MW & 89 Nos WTGs
Project Commercial Status	Grid Connected
Project Evacuation Details	JAISALMER GSS 132 / 33 Kv Dangri SS 220/33KV Baori SS 132KV / 400 kv GSS Akal. SHIRALA(RILE) SS 132 / 33 Kv Khanapur 220 / 33 Kv
Total number of Wind Turbine	89 No.
Rated power for Wind Turbine	2000 kwh (61 no's Inox) and 1500 kwh (28 numbers Suzlon)
Rotor diameter for Wind turbine	93 m and 82 m
Hub height	80 and 76.8 m
Turbine Type	Tubular
Power Control	Pitch
Cut in wind speed	3 M/S
Cut-out Wind speed	20 M/S
Rated wind speed	< = 11.5 M/S

Particulars	Details
Project Activity	Vanilla Clean Power Pvt Ltd
Project Location	Dhangri (Rajsthan)
Project Capacity & Units	64 Mw & 32 WTGs
Project Evacuation Details	Dangri SS 220/33KV
Total number of Wind Turbine	32 Nos Inox
Rotor Height and dm	80 m and 93.3 m
Types of generator	Asynchronous
Power Regulation	Pitch

A.5. Parties and project participants >>

Party (Host)	Participants
India	**Project Proponents**: Leap Green Energy Private limited. Coimbatore 641004, Tamilnadu. **UCR Aggregator**: Inox Green Energy Service Limited *UCRID:**724964927***

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.

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

CATEGORY- ACM0002- Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources Version 21.0

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 228 MW which qualifies for a large-scale project activity. The project status is corresponding to the methodology ACM0002 version 21.0 and applicability of methodology is discussed below:

This project is included within the UCR Standard Positive List of technologies and is within the large -scale CDM thresholds (e.g. installed capacity greater than 15 MW). The UCR positive list comprises of: (a) generation of grid connected electricity from the construction and operation of a new wind power-based power project for supply to grid
Project activity involves power generation with installed capacity of 228 MW.
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 of ACM0002
The project activity is wind energy power project and not a hydro power project activity.
The project activity does not involve any retrofit measures nor any replacement to existing WEGs. Hence there are no new units having either renewable or non-renewable components (e.g., a wind/diesel unit).
The project activity is not a combined heat and power (co-generation) system.
No biomass is involved; the project is only a wind energy power project. The case for retrofit, rehabilitation or replacement, towards a Large-scale project is also not applicable.
The project activity is a voluntary coordinated action. The project activity is a greenfield of 228 MW Wind Electric Project, i.e., no capacity addition was done to any existing power plant.
The project activity is not a landfill gas, waste gas, wastewater treatment and agro-industries project, and does not recover methane emissions and is not eligible under any relevant Type III category.
The project activity comprises of renewable power/energy generation through wind energy and displaces fossil fuel powered electricity from the regional grid by supplying renewable power to the grid itself. Hence this UNFCCC CDM Methodology is applicable and fulfilled.

The project activity involves the installation of new power plants at listed sites where there was no renewable energy power plant operating prior to implementation of project.

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

Out of the 228 MW capacity of this project, 10.5 MW of wind power Ossiya site and 19.5 MW Ossiya site are registered in Clean Development Mechanism (CDM) and gold standard registry and 12 MW Sadia site is applied only in CDM.
Among the registered sites only 10.5 MW wind project Ossiya site has received CER for the period 01/01/2013 to 31/07/2014, the rest projects are only registered but have not been issued carbon credits.
PP is requesting issuance of carbon offsets in UCR, after the period of previous issuance carbon credits (01/01/2013 - 31/07/2014) in 10.5 mw ossiya site, i.e. crediting period will start from 01/08/2014 only at 10.5 mw ossiya site, And remaining site crediting period will commence from the date of commissioning or as per UCR guideline of crediting period (i.e. from January 2013 whichever is latest). This project is not registered with any other voluntary market (National or International) in said vintage period in PCN. Hence, the criteria for double counting is not applicable for the project, for the claimed period.

The details as follow,

UNFCCC CDM Title	10.5 MW wind power project in Ossiya, Rajasthan by Gujarat Fluorochemicals Limited (GFL)	
CDM ID	7724	
Host Parties	M/S Gujarat Fluorochemicals Limited (withdrawn) ; M/s Inox Renewables Limited	
Sectoral Scopes	Energy industries (renewable - / non-renewable sources)	
Methodology	ACM-0002. ver. 13 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources.	
Other Details	CDM RegistrationDate	24 Dec 12 *(Date of registration action 02 May 13)*
	Crediting Period	01 Jan 13 - 31 Dec 19 (Renewable - Expired)
Prior Issuance of CDM Credits (CER)	The first monitoring period for the project activity is from 01/01/2013 to 31/07/2014 (Both days included) and was issued 23,853 CERs. **Serial Range**: Block start: IN-5-216680018-2-2-0-7724 Block end: IN-5-216703870-2-2-0-7724	
Project Link	https://cdm.unfccc.int/Projects/DB/RWTUV1350294460.35/view	

UNFCCC CDM Title	19.5 MW wind power project in Ossiya, Rajasthan by Gujarat Fluorochemicals Limited (GFL)

CDM ID	9573	
Host Parties	M/S Gujarat Fluorochemicals Limited (withdrawn) ; M/s Inox Renewables Limited	
Sectoral Scopes	Energy industries (renewable - / non-renewable sources)	
Methodology	ACM-0002. ver. 13 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources.	
Other Details	CDM RegistrationDate	08 Feb 13 *(Date of registration action 04 Oct 13)*
	Crediting Period	01 Apr 13 - 31 Mar 20 (Renewable - Expired)
Prior Issuance of CDM Credits (CER)	No issuance of CER	
Project Link	https://cdm.unfccc.int/UserManagement/FileStorage/4JIMLYEUP8G9O6CZSV7WR1XN5K2F3T	

UNFCCC CDM Title	12 MW wind power project in Sadiya, Rajasthan by Gujarat Fluorochemicals Limited (GFL)	
CDM ID	-	
Host Parties	M/S Gujarat Fluorochemicals Limited	
Sectoral Scopes	Energy industries (renewable - / non-renewable sources)	
Methodology	AMS-ID. ver. 16	
Other Details	CDM RegistrationDate	No registered
	Crediting Period	-
Prior Issuance of CDM Credits (CER)	No issuance of CER	
Project Link	https://cdm.unfccc.int/UserManagement/FileStorage/NCMSUBPHRGWK2YQDLZX4VF60IAET85	

GS Title	19.5 MW wind power project in Ossiya, Rajasthan by Gujarat Fluorochemicals Limited (GFL)
GS ID	2424
Host Parties	Gujarat Fluorochemicals Limited

Sectoral Scopes	Energy industries (renewable - / non-renewable sources)	
Methodology	ACM-0002. G rid-connected electricity generation from renewable sources	
Other Details	Standard versions	Gold Standard for the Global Goals
	Crediting Period	Apr 01, 2013 — Mar 31, 2020
Prior Issuance of GS Credits	No issuance of carbon credits	

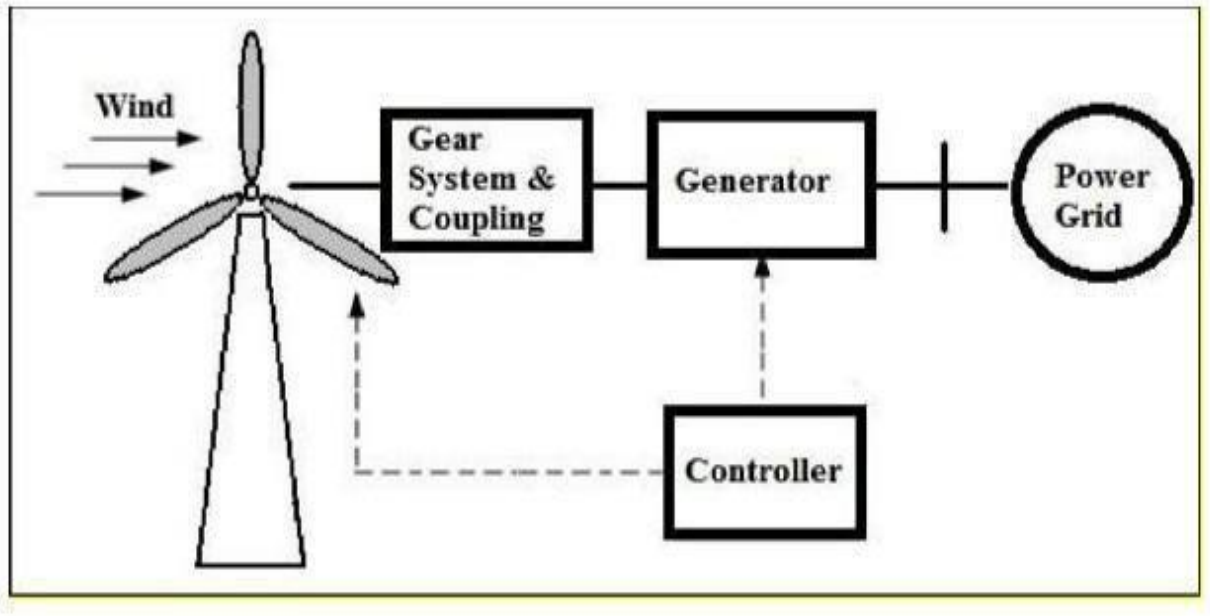
GS Title	10.5 MW wind power project in Ossiya, Rajasthan by Gujarat Fluorochemicals Limited (GFL)	
GS ID	2422	
Host Parties	Gujarat Fluorochemicals Limited	
Sectoral Scopes	Energy industries (renewable - / non-renewable sources)	
Methodology	ACM-0002. G rid-connected electricity generation from renewable sources	
Other Details	Standard versions	Gold Standard for the Global Goals
	Crediting Period	Jan 01, 2013 — Dec 31, 2019
Prior Issuance of Credits	No issuance of Carbon credits.	

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

As per applicable methodology ACM0002 version 21.0, 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. The project boundary encompasses the physical, geographical site of the wind energy power plant, the energy metering equipment and the connected regional electricity grid.

	Source	GHG	Included?	Justification/Explanation
Baseline	Grid-connected electricity	CO_2	**Included**	Major source of emission
		CH_4	Excluded	Excluded for simplification. This is conservative

		N2O	Excluded	Excluded for simplification. This is conservative
Project Activity	Greenfield power project	CO2	Excluded	Excluded for simplification. This is conservative
		CH4	Excluded	Excluded for simplification. This is conservative
		N2O	Excluded	Excluded for simplification. This is conservative



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)

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

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.

Total Installed Capacity: 228 MW

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.

BE_y = 307,002 * 0 .9 = 276,302.

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 2013-2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2021-22, the combined margin emission factor calculated from CEA database in India results into same emission factors as that of the default value. Hence, the same emission factor has been considered to calculate the emission reduction.

Project Emissions As per ACM0002 version 21.0, 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,

PEy =0.

Leakage As per ACM0002 version 21.0, '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,

LEy= 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:

ERy = BEy – PEy – Ley

= 276302 – 0 – 0

Estimated annual Emission Reductions (ER_y) = 276,302 CoUs/yr (276302 tCO_{2eq}/yr)

B.6. Prior History>>

The project activity has not been registered or applied for voluntary carbon benefits under any other GHG program and hence there is no double counting issue of CoUs in said vintage period. Registered / Applied sites are mentioned in Point B3.

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

There is no change in the start date of crediting period. The start date of crediting under UCR is considered as 01/01/2013.
For the 10.5 mw ossiya site the start date of crediting period is from 01/08/2014.

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

The change in PCN (Version 1) is that the credit claim period (vintage period) has been reduced from 2023 to 2022 and CDM is referenced for specific registered sites.

There are no permanent changes in applied methodology

B.9. Monitoring period number and duration>>

1st Monitoring Period: 01/01/2013 to 31/12/2022 (10 years)
1st Crediting Period: 01/01/2013 to 31/12/2022 (10 years)

[**Note**: The first phase of 12 MW was commissioned in march 2008 and second phase of 30 MW was in September 2008 and 54 mw in July 2012, in that case monitoring and crediting period is from 1 January 2013, and crediting / monitoring period of remaining capacity projects have started after respective date of commissioning.]

B.10. Monitoring plan>>

Key Data Monitored: • Quantity of net electricity supplied to the grid

1. **Monitoring Plan Objective and Organization**

PPs are the project implementers and monitors the electricity delivered to the electricity grid by the project activity. The data is already archived electronically and is stored since **01/01/2013**.

To ensure that the data is reliable and transparent, the PPs have 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 PPs on a daily basis.

PPs have 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.

2 Data and Parameters to be monitored

The project activity essentially involves generation of electricity from wind, the employed WEGs 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.

Data / Parameter:	***EGy***
Data unit:	MWh
Description:	Quantity of net electricity supplied by the Project Activity to the grid in year y
Source of data:	JMR. Statement of net export of power to the grid issued Monthly by State Electricity Board or any other competent authority as applicable.
Measurement procedures (if any):	To be specified by State Electricity Board
Monitoring frequency:	The net energy exported to the grid is measured every month using calibrated energy meter by the State Electricity Board authorities in the presence of the project implementer or its representatives. The meter/s shall be jointly inspected, and sealed by authorized representatives of the company and the state utility. Measuring procedure: Will be measured by an export-import energy meter. The net electricity exported by the project plant would either be directly sourced as a measured parameter or be calculated by deducting the amount of imported electricity from the total amount of exported electricity. Accuracy class of energy meter: As per Power Purchase
	Agreement (PPA) or relevant National standards amended/modified from time to time. Calibration Frequency: As per the Central Electricity Authority the testing and calibration frequency should be minimum once in five years. However, 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: Aggregator
QA/QC procedures:	Monitoring frequency: Continuous Measurement frequency: Hourly Recording frequency: Monthly The electricity meter/s record both export and import of electricity from the solar Power plant and the readings with regard to net electricity generated will be used for calculation of emission reductions. The net electricity supplied to the grid will be cross checked with the monthly invoices. The meter/s would be checked for accuracy and the meters will be calibrated as per the procedures of State Electricity Board as per the national or international standards. Measurement results shall be cross checked with records for sold electricity (i.e. invoice).
Purpose of Data	-Calculation of baseline emissions

Data/Parameter	$EF_{, CO2, GRID, y}$
Data unit	tCO2 /MWh
Description	Fixed Ex-Ante
of data Value(s) applied	UCR Standard Protocol As per Standard (0.9)
Measurement methods and procedures	Fixed
Monitoring frequency	NA
Purpose of data	To estimate baseline emissions