



Universal Carbon Registry

MONITORING REPORT
CARBON OFFSET UNIT (CoU) PROJECT



Title: 14 MW Wind Power Project by M/S BMD Power Pvt. Ltd, Noida.

Version 1.0

Date of MR: 19th Feb 2024

UCR ID: 401

1st CoU Issuance Period: 01.11.2015 to 31.12.2022 (7 Years 02 month)

1st Monitoring Period: 01.11.2015 to 31.12.2022 (7 Years 02 month)

1st Crediting Period: 01.11.2015 to 31.12.2022 (7 Years 02 month)

8 DECENT WORK AND
ECONOMIC GROWTH



13 CLIMATE
ACTION



7 AFFORDABLE AND
CLEAN ENERGY





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

Monitoring Report	
Title of the project activity	14 MW Wind Power Project by BMD Power Pvt. Ltd.
UCR Project Registration Number	401
Version	1.0
Completion date of the MR	19/02/2024
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: (first and last days included (01/11/2015 to 31/12/2022))
Project participants	Project Proponents: M/s. BMD Power Pvt. Ltd, Noida, Uttar Pradesh, India. UCR Aggregator: Inox Green Energy Service Limited UCR ID: 724964927
Host Party	India
Applied methodologies and standardized baselines	Applied Baseline Methodology: AMS-I.D: “Grid connected renewable electricity generation”, version 18
Sectoral scopes	01 Energy industries (Renewable/Non-Renewable Sources)
Estimated amount of GHG emission reductions for this monitoring period in the registered PCN	2015: 802 CoUs (802 tCO ₂ eq)
	2016: 10,959 CoUs (10,959 tCO ₂ eq)
	2017: 17,844 CoUs (17,844 tCO ₂ eq)
	2018: 20,124 CoUs (20,124 tCO ₂ eq)
	2019: 22,073 CoUs (22,073 tCO ₂ eq)
	2020: 11,449 CoUs (11,449 tCO ₂ eq)
	2021: 11,532 CoUs (11,532 tCO ₂ eq)
	2022: 15,308 CoUs (15,308 tCO ₂ eq)
Total:	110,091 CoUs (110,091 tCO₂eq)

SECTION A. Description of project activity

A) Purpose and general description of project activity>>

The project activity titled **14 MW Wind Power Project by BMD Power Pvt. Ltd. Bilwada towers A-12 Sector 1, Noida** is renewable (wind) energy projects located at the following locations in Country: India:

Sr No	Name of Wind Farm	Installed Capacity (MW)	Village/s	District	State
01	BMD Power Pvt Ltd	14	Karajangi, Valsang. (site- Vaspeth)	Sangali	Maharashtra

The wind farm is owned by BMD Power Pvt Ltd., (BMD- Project Proponent or PP).The total installed capacity of the BMD Wind Project is 14 MW wind power project in Sangali district of Maharashtra. The BMD Wind Projects consists of 7 WTGs of 2.0 MW each. The wind park is developed by M/S Shree Maruti wind park developers.

The generated electricity from the WTGs is grid connected wind power project located in Karajangiand Valsang village of Sangali District in the state of Maharashtra (India). The purpose of this plant installation to supply electricity to regional MSEDCL Grid. The 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).

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., CO₂) 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.

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.

The Owner of the project is BMD Power Private Limited. The details along with commissioning period are as follows:

	WTG No	COD	Village	Site	Gut No.	Tehsil	District	State
1	MVT-01	30 March 2014	Karanjangi	Vaspeth	257	Jath	Sangali	Maharashtra
2	MVT-12	30 March 2014	Karanjangi	Vaspeth	105	Jath	Sangali	Maharashtra
3	MVT-46	30 March 2014	Valsang	Vaspeth	294	Jath	Sangali	Maharashtra
4	MVT-37	31 March 2014	Valsang	Vaspeth	354	Jath	Sangali	Maharashtra
5	MVT-47	03 October 2015	Valsang	Vaspeth	355	Jath	Sangali	Maharashtra
6	MVT-08	31 October 2015	Valsang	Vaspeth	343	Jath	Sangali	Maharashtra
7	MVT-03	03 October 2015	Karanjangi	Vaspeth	222	Jath	Sangali	Maharashtra

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

Project Name: - Wind Power Project by BMD Power Pvt. Ltd. Bilwada
Capacity & Units: - 14 MW & 7 No's WTG

All the machines are INOX make and 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 cleantechology sincethereareno GHG emissions associated with theelectricitygeneration.

The important parts of wind mill 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 Rein forced 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. Gear boxes 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.

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

The duration of the crediting period corresponding to the monitoring period is covered in this monitoring report.

UCR Project ID: 401

Commissioning Date of the projects : 30/03/2014
: 31/03/2014
: 03/10/2014
: 31/10/2014

Start Date of Crediting Period : 01/11/2015

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

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

Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	01/11/2015
Carbon credits claimed up-to	31/12/2022
Total ERs generated (tCO ₂ eq)	110,091 tCO ₂ eq

Leakage	0
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B. Location of project activity>>

Country: India

State : Maharashtra

The project location is situated at village- Karanjang and Valsang, District- Sangli in the state of Maharashtra. The project site is well connected by district and village roads to the nearest town. The geographic co-ordinates of the project locations have been provided below.

BMD POWER PVT. LTD.					
Sr. No.	WTG No.	INST_CAPACITY (MW)	WTG_MODEL_NAME	Latitude	Longitude
1	MVT-01	2	IWISL/2000/13-14/3958	N170615.6	E751749.1
2	MVT-12	2	IWISL/2000/13-14/3959	N170522.0	E751818.4
3	MVT-46	2	IWISL/2000/13-14/3961	N170505.4	E751820.7
4	MVT-37	2	IWISL/2000/14-15/3960	N170428.7	E751841.8
5	MVT-47	2	IWISL/2000/15-16/3962	N170441.3	E751844.9
6	MVT-03	2	IWISL/2000/15-16/4356	N170608.9	E751712.0
7	MVT-08	2	IWISL/2000/15-16/3968	N170407.2	E751848.1

C. Parties and project participants>>

Party (Host)	Participants
India	UCR Aggregator: Inox Green Energy Service Limited UCR ID:724964927) Contact person: Saurabh Tyagi Mobile: +918802088793 Project Proponents: M/s. BMD Power Pvt. Ltd, Noida, Uttar Pradesh, India.

D. References to methodologies and standardized baselines>>

SECTORAL SCOPE- 01 Energy industries (Renewable/Non-Renewable Sources)

TYPE- Renewable Energy Projects

CATEGORY- AMS-I.D: “Grid connected renewable electricity generation”, version 18

UCR Standardized Baseline Emission Factor Applied for the period 2013-2022

E. Crediting period of project activity>>

Start Date of Crediting Period: 01/11/2015

Length of the crediting period corresponding to this monitoring period: 07 years 02 months i.e., 01/11/2015 to 31/12/2022 (Both the dates are inclusive).

F. Contact information of responsible persons/entities>>

Name : Saurabh Tyagi
Contact No : +918802088793
E-Mail : saurabh.tyagi@inoxwind.com

SECTION B. Implementation of project activity

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

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

The project consists of 7 WTGs with capacity of 2 MW each installed. Wind Turbine which is installed at Karanjang and Valsang village. The project generates clean energy by utilizing the kinetic energy of flowing wind.

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

Wind Turbines are manufactured and supplied by INOX with an aggregate installed capacity of 14 MW. The connectivity of all the WTGs is to a Central Monitoring Station (CMS) through high-speed WLAN modem or fiber optic cable which helps in providing real time status of the turbine at CMS with easy GUI (Graphical User Interface) and ability to monitor the functioning of the turbine from CMS. The life time of the WTG is 20 years as per manufacturer specifications.

Technical details of the machines installed are explained below:

Model		
1	Turbine Model	Inox WT2000DF
Operating Data		
2	Rated power	2000 kW
3	Cut in wind speed	3.0m/s
4	Rated wind speed	<=11.5m/s
5	Cut-out Wind speed	20.0m/s
6	Hub Height	80m
Rotor		
7	Rotor Diameter	93.3m
9	Rotor Area	6795m ²
10	No of Rotor blade	3
Generator		
11	Type	Asynchronous
12	Power regulation	Pitch
Tower		
13	Type	tubular
14	Hub height	80m
15	Rated voltage	690V



Substation



BMD site

B.2 Do no harm or Impact test 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 is a Greenfield activity where 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 grid as distinct baseline.

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

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

Environmental well-being: The project utilizes Wind energy for generating electricity which is a Clean source of energy. The project activity will not generate any air pollution, wind pollution or solid waste to the environment which otherwise would have been generated through fossil fuels. Also, it will contribute to reduction GHG emissions. Thus, the project causes no negative impact on the surrounding environment contributing to environmental well-being.

Economic well-being: Being a renewable resource, using Wind energy to generate electricity contributes to conservation of precious natural resources. The project contributes to the economic sustainability through promotion of decentralization of economic power, leading to diversification of the national energy supply, which is dominated by conventional fuel based generating units. Locally, improvement in infrastructure will provide new opportunities for industries and economic activities to be setup in the area. Apart from getting better employment opportunities, the local people will get better prices for their land, thereby resulting in overall economic development.

Technological well-being: The project activity leads to the promotion of 2 MW Wind Turbine Generators into the region and will promote practice for small scale industries to reduce the dependence on carbon intensive grid supply to meet the captive requirement of electrical energy and also increasing energy availability and improving quality of power under the service area. Hence, the project leads to technological well-being.

B.3. Baseline Emissions>>

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

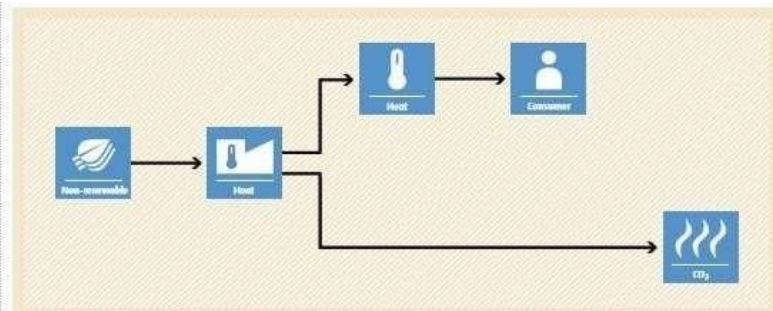
Baseline Scenario:

Thus, this project activity was a voluntary investment which replaced equivalent amount of electricity from the Indian grid. The project proponent was not bound to incur this investment as It was not mandatory by national and sectoral policies. Thus, the continued operation of the project activity would continue to replace fossil fuel-based power plants and fight against the impacts of climate change. The Project Proponent hopes that carbon revenues from 2015-2022 accumulated as a result of carbon credits generated will help repay the loans and help in the continued maintenance of this project activity.

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- 2021 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 higher emission than the default value. Hence, the same UCR emission factor (0.9 tCO₂/MWh) has been considered to calculate the emission reduction under conservative approach.

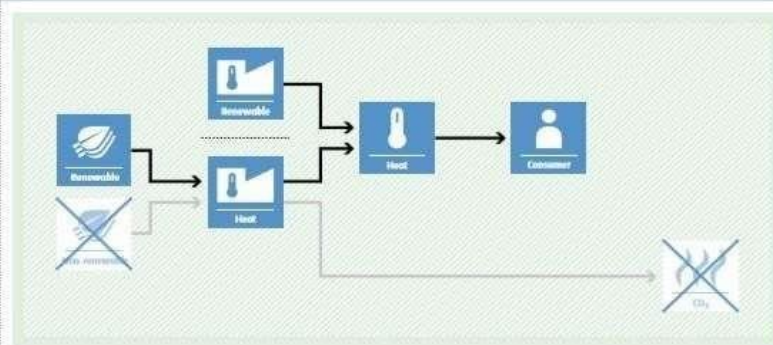
BASILINE SCENARIO

Thermal energy would be produced by more-GHG-intensive means based on the use of non-renewable biomass.



PROJECT SCENARIO

Use of renewable energy technologies for thermal energy generation, displacing non-renewable biomass use.



B.4. Debundling>>

This project activity is not a de-bundled component of a larger project activity.

SECTION-C: Application of methodologies and standardized baselines

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

Sectoral Scope: 01 Energy industries (Renewable/Non-Renewable Sources)

TYPEI– Renewable Energy Projects

Applied Baseline Methodology: AMS-I.D: “Grid connected renewable electricity generation”, version 18

C.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 project and to use for captive purpose via grid interface by wheeling through state electricity board i.e. MSEDCL under the Power Purchase Agreement (PPA) signed between the Project Proponent (PP) and the utility.

The project activity has installed 7 WTGs of capacity 2 MW each which will qualify for a small-scale project activity under Type-I of the Small-Scale methodology. The project status is corresponding to the methodology AMS-I.D., version 18 and applicability of methodology is discussed below:

Applicability Criterion	Project Case
1. This methodology comprises renewable energy generation units, such as photovoltaic, Wind, tidal/wave, wind, geothermal and renewable biomass: (a) Supplying electricity to a national or a regional grid; or (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	The project activity involves setting up of a renewable energy (Wind) generation plant that exports electricity to the fossil fuel dominated electricity grid (Indian Grid system). Thus, the project activity meets this applicability conditions.
2. 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 are habilitation of (an) existing plant(s); or Involve are placement of(an) existing plant(s).	The Project activity involves the installation of new WTGs at a site where there was no renewable energy power plant operating prior to the implementation of the project activity. Thus, Project activity is a Greenfield plant and satisfies this applicability condition (a).

<p>3. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:</p> <p>(a) The project activity is implemented in existing reservoir, with no change in the volume of the reservoir; or</p> <p>(b) The project activity is implemented in existing reservoir, where the volume of the reservoir(s) Is increased and the power density as per definitions given in the project emissions section, is greater than 4 W/m²</p> <p>(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, (e)is greater than 4W/m2</p>	<p>As the project activity is a Wind Turbine Generator, this criterion is not relevant for the project activity.</p>
<p>4. If the new unit has both renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15MW.</p>	<p>The rated capacity of the project activity is 2X7 MW with no provision of Co-firing fossil fuel. Hence, meeting with this criterion.</p>
<p>5. Combined heat and power (co-generation) systems are not eligible under this category</p>	<p>This is not relevant to the project activity as the project involves only Wind power generating units.</p>
<p>6. In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.</p>	<p>There is no other existing renewable energy power generation facility at the project site. Therefore, this criterion is not applicable.</p>
<p>7. In the case of retrofit or replacement, to qualify as a small- scale project, the total output of the retrofitted or replacement power plant/unit shall not exceed the limit of 15MW.</p>	<p>The project activity is a new installation; it does not involve any retrofit measures nor any replacement and hence is not applicable for the project activity.</p>

8. In the case of landfill gas, waste gas, waste water 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 component shall be in accordance with procedure prescribed under this methodology. If there covered 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.	This is not relevant to the project activity as the project involves only Wind power generating units.
9. In case biomass is sourced from dedicated plantations, the applicability criteria in the tool “Project emissions from cultivation of biomass” shall apply.	Not biomass is involved, the project is only a wind power project and thus the criterion is not applicable to this project activity.

C.3 Applicability of double counting emission reductions>>

The project was not applied under any other GHG mechanism. Hence project will not cause double accounting of carbon credits (i.e., COUs).

C.3. Project boundary, sources and greenhouse gases(GHG)>>

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.” Thus, the project boundary includes the Wind Turbine Generators and the Indian grid system.

Source		Gas	Included?	Justification/Explanation
Baseline	Grid connected electricity generation	CO2	Yes	CO2 emissions from electricity generation in fossil fuel fired power plants
		CH4	No	Minor emission source
		N2O	No	Minor emission source
		Other	No	No other GHG emissions were emitted from the project
Project	Green-field Wind Power Project Activity	CO2	No	No CO2 emissions are emitted from the project
		CH4	No	Project activity does not emit CH4
		N2O	No	Project activity does not emit N2O
		Other	No	No other emissions are emitted from the project

C.4. Establishment and description of baseline scenario (UCR Protocol)>>

As per para 19 of the approved consolidated methodology AMS-I.D. Version 18, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

“The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources in to the grid”.

The project activity involves setting up of a new Wind Turbine Generator to harness the green power from Wind energy and use it for personal requirement (captive consumption). In the absence of the project activity, the equivalent amount of power would have been generated by the operation of grid- connected fossil fuel-based power plants and by the addition of new fossil fuel-based generation sources into the grid. The power produced at grid from the other conventional sources which are predominantly fossil fuel based. Hence, the baseline for the project activity is the equivalent amount of power produced at the Indian grid.

A "grid emission factor" refers to a CO₂ emission factor (tCO₂/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO₂/MWh for the 2014-2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2021-2022, 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.

Net GHG Emission Reductions and Removals

$$ER_y = BE_y - PE_y - LE_y$$

Where:

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

BE_y = Baseline Emissions in year y (tCO₂/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 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:

$$BE_y = EG_{PJ,y} \times EF_{grid,y}$$

Where:

BE_y = Baseline emissions in year y (tCO₂)

EGPJ,y = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of this project activity in year y(MWh).

EFgrid,y = UCR recommended emission factor of 0.9 tCO₂/MWh has been considered, this is conservative as compared to the combined margin grid emission factor which can be derived from Data base of Central Electricity Authority (CEA), India. (Reference: General Project Eligibility Criteria and Guidance, UCR Standard, Page 4)

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

$$BE_y = 122,324 \times 0.9 = 110,091$$

Project Emissions

As per paragraph 39 of AMS-I.D. (version 18, dated 28/11/2014), for most renewable energy project activities emission is zero.

Hence, PE_y=0

Leakage Emissions

As per paragraph 42 of AMS-I.D.version-18, all projects other than Biomass projects have zero leakage.

Hence, LE_y=0

Total Emission reduction by the project for the current monitoring period is calculated as below:

Hence, ER_y=110091 – 0 – 0 = 110,091 CoUs

C.6. Prior History>>

The project was not applied under any other GHG mechanism. Hence project will not cause double accounting of carbon credits (i.e., COUs).

First Monitoring Period: 07 years 02 months

C.7. Monitoring period number and duration>>

01/11/2015 to 31/12/2022 (inclusive of both dates)

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

Crediting period start date is 01/11/2015.

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

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

C.10. Monitoring plan>>

The project activity essentially involves generation of electricity from wind, the employed Wind Turbine Generator can only convert Wind energy into electrical energy and cannot use any other input fuel for electricity generation, and 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 (MSEDCL).

PPs are the project implementers and monitor the electricity delivered to the electricity grid by the project activity. The data is already archived electronically and is stored since commissioning. 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.

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:	<i>EGy</i>																		
Data unit:	MWh																		
Description:	<table border="1"> <thead> <tr> <th>Year</th><th>MWh Supplied to Grid</th></tr> </thead> <tbody> <tr> <td>2015</td><td>892.1571893</td></tr> <tr> <td>2016</td><td>12177.67388</td></tr> <tr> <td>2017</td><td>19826.68505</td></tr> <tr> <td>2018</td><td>22360.77486</td></tr> <tr> <td>2019</td><td>24525.85272</td></tr> <tr> <td>2020</td><td>12722.15815</td></tr> <tr> <td>2021</td><td>12813.34508</td></tr> <tr> <td>2022</td><td>17009.66282</td></tr> </tbody> </table> <p>Quantity of net electricity supplied by the Project Activity to the grid in year y.</p>	Year	MWh Supplied to Grid	2015	892.1571893	2016	12177.67388	2017	19826.68505	2018	22360.77486	2019	24525.85272	2020	12722.15815	2021	12813.34508	2022	17009.66282
Year	MWh Supplied to Grid																		
2015	892.1571893																		
2016	12177.67388																		
2017	19826.68505																		
2018	22360.77486																		
2019	24525.85272																		
2020	12722.15815																		
2021	12813.34508																		
2022	17009.66282																		

Source of the Data:	JMR. Statement of net export to f power to the grid issued Monthly by State Electricity Board or any other competent authority as applicable
Measurement Procedure (if any):	Total MWh supplied to the grid during this MR= 122,324mw (Round down)
Monitoring frequency:	Monitoring frequency: Continuous Measurement frequency: Hourly Recording frequency: Monthly
QA/QC procedures:	<p>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 shall be jointly inspected, and sealed by authorized Representatives of the company and the state utility.</p> <p>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.</p> <p>Accuracy class of energy meter: As per Wheeling Agreement or relevant National standards amended/modified from time to time.</p> <p>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.</p> <p>Entity responsible: Aggregator</p> <p>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 shall be jointly inspected, and sealed by authorized Representatives of the company and the state utility.</p> <p>Measuring procedure: Will be measured by an export-import energy meter. The net electricity</p>

	<p>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.</p> <p>Accuracy class of energy meter: As per Wheeling Agreement or relevant National standards amended/modified from time to time.</p> <p>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.</p> <p>Entity responsible: Aggregator</p> <p>The electricity meter/s record both export and import of electricity from the Wind Farm 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 settlement invoices. The meter should 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). As per the monthly accounting procedure reflected in the monthly statement (e.g., JMR and Settlement Invoices etc.) However, if the monthly statement does not directly provide “net electricity” units, then quantity of net electricity supplied to the grid shall be calculated using the parameters reflected in the monthly document, such as Export units and Import units. Thus, the difference between the measured quantities of the grid export and the import will be considered as net export: $EGPJ_y = EG \text{ Export} - EG \text{ Import}$ (Calculation has been referred in the ER sheet)</p>
Purpose of the Data:	-Calculation of baseline emissions



Check meter



Main Meter



Sub-station

ANNEXURE I (Emission Reduction Calculation)

14 MW BMD												
Month—Wise Energy Delivered to Grid (kWh)												
Year	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov.	Dec
2015											368102	524055
2016	359324	914500	1211683	705438	1416199	2361027	1653638	179685	1428067	937810	427689	582613
2017	720178	644726	774053	1067074	2349627	3752977	5199338	2316654	1302774	448094	454613	796576
2018	321185	635187	636947	810517	1709905	3212712	5838225	5399564	1771471	822566	590107	612390
2019	609612	809272	998909	1392841	1932720	3729033	5309441	4742915	3022922	677670	563040	737477
2020	532711	658212	732951	507072	722638	1007696	1980453	3534722	1133546	689244	478297	744618
2021	432009	565780	563309	731249	847291	1850937	2860065	1574711	1953785	385206	597257	451745
2022	554626	482844	715517	755132	2197164	2354674	3557613	2985216	1708008	620603	554338	523927
Export from November 2015 to December 2022 in kWh												



(A Govt. of Maharashtra Undertaking)

CIN : U40109MH2005SGC153645

MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO.LTD

CIRCLE OFFICE: SANGLI

Ph No- (0233) 2301744-47 Fax- (0233) 2300223 E-mail -sesangli@mahadiscom.in

Ref.No.SE/SC/Addl. EE/Wind Mill/

9675

Date:

17 OCT 2015

To,
The Executive Engineer,
MSEDCL, O & M,
Division Office,
Kavathe Mahankal.

Subject: - Charging Permission for 2 X 2000 KW WTG's at Vaspeth Site, Tal- Jath, Dist- Sangli.

- Ref: - 1. Comm/CP/Wind/Extention./BMD/no. 35230, Dt. 29.09.2015.
2. CE- Comm/CP/Wind/Extention./BMD/no. 35228, Dt. 29.09.2015.
3. PGN-I/TIC/BMD/2.0 MW/2014-15/1216, Dt. 31.03.2015.
4. PGN-I/TIC/BMD/2.0 MW/2015-16/3281, Dt. 29.09.2015.
5. SE(Elect)/AEI/1885 & 1890/2014-15, Dt. 10.09.2014.
6. SMWPD/SG/Comm/Oct-2015/158, Dt. 01.10.2015

As per parties request letter under reference, the documents submitted by M/s. Sri Maruti Wind Park Developers in respect of their 2 no's of Wind Energy Generator is verified & found correct.

Permission for commissioning of 2 no's of Wind Energy Generator is hereby accorded. List & Details of WTG's is given here below.

Sr. No	Name of Client	Location No	Gut No	Village	Site	Capacity In KW	Connected to Feeder
1.	M/s. BMD Power Pvt. Ltd	MVT - 47	355	Valsang	Vaspeth	2000	Feeder No. IV
2.		MVT - 03	222	Karajangi	Vaspeth	2000	Feeder No. II



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CIRCLE OFFICE: SANGLI

Ph No - (0233) 2301744-47 Fax - (0233) 2300223 E-mail - sesangli@mahadiscom.in

Ref.No.SE/SC/DyEE/Wind Mill/

No 4842

Date: 15 MAY 2014

To,
M/s. BMD Power Pvt. Ltd.
Bhilwara Towers A-12, Sector-1 Nioda-201 301.

Subject:- Commissioning of Two No's of 2000 KW Wind Electric Generators in r/o M/s. BMD Power Pvt. Ltd. Loc. No. MVT-12, Gut No.105, at Village- Karajangi, Loc. No. MVT-46, Gut No. 294, at Village- Valsang, Site- Vaspeth, Tal- Jath, Dist-Sangli.

- Ref: - 1. Dir[O]L.No. DO/MSEDCL/NCE/Wind/4001, Dt. 15.02.2006
2. Comm/CP/Wind/New Comm./BMD Power/09562, Dt. 21.03.2014.
3.PGN-I/CC/BMD/2.0 MW/2013- 14/1405, 1415, Dt. 24.03.2014.
4. SE(Elect) charging permission Letter no. 912, Dt. 27.03.2014.
5. SMWPD/SG/PDD/Comm/13-14/05, Dt. 29.03.2014.
6. T.O.L.No. SE/SC/DyEE/Wind Mill/No-3215, Dt. 29.03.2014.
7. EE/KM/Tech/Wind Mill/002071, Dt. 07.05.2014.

Two No's of 2000 KW Wind Electric Generators in r/o M/s. BMD Power Pvt. Ltd. Loc. No. MVT-12, Gut No.105, at Village- Karajangi, Loc. No. MVT-46, Gut No. 294, at Village- Valsang, Site- Vaspeth, Tal- Jath, Dist-Sangli, is commissioned on 30th March 2014 in presence of the Executive Engineer O & M Division Kavathemahankal, Executive Engineer Testing Division Sangli, Dy. Executive Engineer [W/M] Circle Office, Sangli and the representative of M/s Sri Maruti Wind Park Developers, Satara. The wind machines under inspection started supplying power to MSEDCL Grid at common metering point at 132-110/33 KV Valsang S/stn.

The details of 33KV overhead line and the other metering equipment charged is as detailed hereunder:-

13KM D/C, 33KV Over-head Line, Feeder No- 6 at 132-110/33KV Valsang S/s and metering arrangement is commissioned to Vaspeth Wind Farm Site, developed by M/s Sri Maruti Wind Park Developers.



MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD
CIRCLE OFFICE: SANGLI

Ph No - (0233) 2301744-47 Fax - (0233) 2300223 E-mail - sesangli@mahadiscom.in

Ref.No. SE/SC/DyEE/Wind Mill/ No 4828 Date: 15 MAY 2014

To,
M/s. BMD Power Pvt. Ltd.
Bhilwara Towers A-12, Sector-1
Noida-201 301

Subject:- Commissioning of One No of 2000 KW Wind Electric Generators
in r/o M/s BMD Power Pvt. Ltd. Loc. No. MVT-1, Gut No.257, at
Village- Karajangi, Site-Vaspeth, Tal-Jath, Dist-Sangli.

- Ref: - 1. Dir[O]L.No. DO/MSEDCL/NCE/Wind/4001, Dt. 15.02.2006
2. Comm/CP/Wind/New Comm./BMD Power/10207, Dt. 27.03.2014.
3. PGN-I/CC/BMD/2.0 MW/2013- 14/1645, Dt. 29.03.2014.
4. SE(Elect) charging permission Letter no. 910, Dt. 27.03.2014.
5. SMWPD/SNG/PDD/Comm/13-14/08, Dt. 29.03.2014.
6. T.O.L.No. SE/SC/DyEE/Wind Mill/No-3217, Dt. 29.03.2014.
7. EE/KM/Tech/Wind Mill/002070, Dt. 07.05.2014.

One No of 2000 KW Wind Electric Generators in r/o M/s BMD Power Pvt. Ltd.
Loc. No. MVT-1, Gut No.257, at Village- Karajangi, Site- Vaspeth, Tal- Jath, Dist-
Sangli, is commissioned on 30th March 2014 in presence of the Executive Engineer O & M
Division Kavathemahankal, Executive Engineer Testing Division Sangli, Dy. Executive Engineer
[W/M] Circle Office, Sangli and the representative of M/s Sri Maruti Wind Park
Developers, Satara. The wind machines under inspection started supplying power to MSEDCL
Grid at common metering point at 132-110/33 KV Valsang S/stn.

The details of 33KV overhead line and the other metering equipment charged is as
detailed hereunder:-

13KM D/C, 33KV Over-head Line, Feeder No- 6 at 132-110/33KV Valsang S/s and
metering arrangement is commissioned to Vaspeth Wind Farm Site, developed by M/s Sri
Maruti Wind Park Developers.



MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD
CIRCLE OFFICE: SANGLI

Ph No- (0233) 2301744-47 Fax- (0233) 2300223 E-mail - sesangli@mahadiscom.in

Ref.No. SE/SC/DyEE/Wind Mill/ No 4853 Date: 15 MAY 2014

To,
M/s. BMD Power Pvt. Ltd.,
Bhilwara Towers A-12, Sector-1
Noida- 201 301

Subject:- Commissioning of One no of 2000 KW Wind Turbine Generators in r/o
M/s. BMD Power Pvt Ltd, Loc. no. MVT- 37, Gut no- 354, Village-
Valsang, at Site- Vaspeth, Tal- Jath, Dist- Sangli.

- Ref: - 1. Dir [O] L.No.DO/MSEDCL/NCE/Wind/4001, dtd: 15/02/2006.
2. Comm/CP/Wind/New Comm./BMD Power/no. 9562, dtd: 21.03.2014.
3. PGN-I/CC/BMD/2.0 MW/2013-14/1726, dtd. 29/03/2014.
4. SE(Elect).Temporary WTG's Charging Permission Letter no. 912,
dtd.27.03.2014.
5. SMWPD/SNG/PDD/Comm/13-14/14, dtd. 29.03.2014.
6. T.O.L.No. SE/SC/DyEE/Wind Mill/no.3224, dtd. 29.03.2014.
7. EE/KM/Tech/Wind Mill/002079, dtd. 07.05.2014.

One no of 2000 KW Wind Turbine Generators in r/o M/s. BMD Power Pvt Ltd,
Loc. no. MVT- 37, Gut no- 354, Village- Valsang, at Site- Vaspeth, Tal- Jath,
Dist- Sangli, is commissioned on 31st March 2014 in presence of the Executive
Engineer O&M Division, Kavathemhankal, Executive Engineer Testing Division Sangli, Dy.
Executive Engineer [W/M] Circle Office, Sangli and the representative of M/s. Sri
Maruti Wind Park Developers. The wind machines under inspection started supplying
power to MSEDCL Grid at common metering point at 132-110/33 KV Jath S/stn.