



Monitoring Report

CARBON OFFSET UNIT (CoU) PROJECT



Title: 77.2 MW Bundled Wind Projects in AP, MP and Maharashtra, India

Version 1.0

Date of MR: 15/05/2023

UCR ID: 320

UCR MR Period: 01

1st Monitoring Period: 18/07/2014 to 31/12/2022 (08 years 06 months) **1st Crediting Period:** 18/07/2014 to 31/12/2022 (08 years 06 months)

8 DECENT WORK AND
ECONOMIC GROWTH

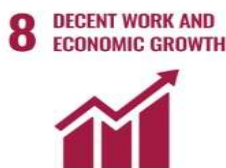


13 CLIMATE
ACTION



7 AFFORDABLE AND
CLEAN ENERGY





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

BASIC INFORMATION	
Title of the project activity	77.2 MW Bundled Wind Projects in AP, MP and Maharashtra, India
Scale of the project activity	Large Scale
UCR Project ID	320
Completion date of the MR	15/05/2023
Project participants	<p>Project Proponents: Blyth Wind Park Private Limited (BWPPPL), Betul Wind Farms Pvt Limited (BWFPL) and Pradeep Metals Limited (PML)</p> <p>UCR Aggregator: Climekare Sustainability Pvt. Ltd. UCR ID: 336812961</p>
Host Party	India
Applied methodologies and standardized baselines	<p>Type I (Renewable Energy Projects)</p> <p>UNFCCC Methodology ACM0002: Grid-connected electricity generation from renewable sources --- Version 20.0</p> <p>UCR Protocol Standard Baseline</p>
Sectoral scopes	01 Energy industries (Renewable/Non Renewable Sources)
SDG Impacts:	<p>SDG 7 Affordable and Clean energy</p> <p>SDG 8 Decent work and economic growth</p> <p>SDG 13 Climate Action</p>
Estimated amount of total GHG emission reductions per year	<p>18/07/2014-31/12/2014: 12458 CoUs/yr (12458 tCO_{2eq}/yr)</p> <p>01/01/2015-31/12/2015: 135658 CoUs/yr (135658 tCO_{2eq}/yr)</p> <p>01/01/2016-31/12/2016: 146669 CoUs/yr (146669 tCO_{2eq}/yr)</p> <p>01/01/2017-31/12/2017: 133210 CoUs/yr (133210 tCO_{2eq}/yr)</p> <p>01/01/2018-31/12/2018: 137518 CoUs/yr (137518 tCO_{2eq}/yr)</p> <p>01/01/2019-31/12/2019: 140102 CoUs/yr (140102 tCO_{2eq}/yr)</p> <p>01/01/2020-31/12/2020: 113149 CoUs/yr (113149 tCO_{2eq}/yr)</p> <p>01/01/2021-31/12/2021: 123755 CoUs/yr (123755 tCO_{2eq}/yr)</p> <p>01/01/2022-31/12/2022: 127720 CoUs/yr (127720 tCO_{2eq}/yr)</p>
Estimated amount of total GHG emission reductions during this MR	1070239 CoUs (1070239 tCO_{2eq})

SECTION A. Description of project activity

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

a) Purpose and general description of Carbon offset Unit (CoU) project activity >>

The project activity titled, **77.2 MW Bundled Wind Projects in AP, MP and Maharashtra, India** is a bundle of 3 (three) renewable (wind) energy project activities located at the following locations in Country: India:

Bundled Sr No	Name of Wind Farm Bundle	Installed Capacity (MW)	Village/s	District	State
01	Betul Wind Farms	49.5	Derpani, Kabramall, Khamla, Baramcha, Badgaon and Dhar	Betul	Madhya Pradesh
02	Blyth Wind Park	25.6	Kalyandurg	Ananthapur	Andhra Pradesh
03	Pradeep Metals WTG	2.1	Umarani	Sangali	Maharashtra

The wind farm project activity bundles are as follows:

- Sr. No 01 (Betul Wind Farms) is owned by Betul Wind Farm Pvt Ltd (BWFPL). BWFPL (Project Proponent or PP) is a special purpose vehicle (SPV) owned by WPA Clean Energy Private Limited (held by Atria Brindavan Power Pvt Ltd - flagship company of Atria Group) and USEIPL (held by United Telecoms Limited). The total installed capacity of Betul Wind Farms is 49.5 MW and consists of 33 Wind turbine generators (WTGs) each of 1.5 MW capacity in Betul district of Madhya Pradesh.
- Sr. No 02 (Blyth Wind Park) is owned by Blyth Wind Park Private Limited (BWPPPL- Project Proponent or PP) which is a subsidiary of WPA Clean Energy (WPA) which is a part of Atria Group. The Atria group has investments in diverse segments viz. hydro power, renewable power, hospitality, real estate etc. in various geographies. The total installed capacity of the Blyth Wind Park is 25.6 MW wind power project in Ananthapur district of Andhra Pradesh. The Blyth Wind Park consists of 16 WTGs of 1.6 MW each. The entire Engineering, Procurement and Construction (EPC) including Operations and Maintenance (O&M) services are provided by GE India Ltd.
- Sr. No 03 (Pradeep Metals WTG) is owned by Pradeep Metals Limited (PML- Project Proponent or PP). The total installed capacity by PML is 2.1 MW and consists of one WTG in Sangali district of Maharashtra. The entire Engineering, Procurement and Construction (EPC) including Operations and Maintenance (O&M) services are provided by Sulzon Ltd.

The generated electricity from the wind turbine generators (WTGs) in the bundles are connected to the state electric utility grids of AP, MP 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 across all the bundles is considered as the start date of the project activity and is recorded as 18/07/2014.**

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 fuelbased 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.

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

Particulars	Details
Project Activity	Betul Wind Farms
Project Capacity & Units	49.5 MW & 33 Nos WTGs
Project Commercial Status	Grid Connected
Project Evacuation Details	132/33 KV Gudgaon Sub Station of MPPTCL
Total number of Wind Turbine	33 No.
Rated power for Wind Turbine	1500 kwh
Make Wind turbine	V82 / Regen Powertech
Rotor diameter for Wind turbine	82.3 M
Hub height	85 MTS
Turbine Type	Tubular
Power Control	Pitch
Cut in wind speed	2.5 M/S
Cut-out Wind speed	22.5 M/S
Rated wind speed	1 M/S

Particulars	Details
Project Activity	Blyth Wind Park Pvt Ltd
Project Location	Kalyandurg (AP)
Project Capacity & Units	25.6 Mw & 16 WTGs of 1.6Mw GE 87m
Project Evacuation Details	Power Evacuated through 33kv Line and connected to 220/132/33kv APTRANSCO substation SS Kalyandurg.
Total number of Wind Turbine	16 Nos
Rating of Photovoltaic Module / Wind Turbine / Hydro Units	GE 1.6Mw (Rotor 87m) (Hub Height 80M)
Make Solar Module / Wind turbine / Hydro Units	GE

LT Switchgear	ABB
LT Cable	400 Sq.mm Single core (14 runs)
No. of Inverter & Capacity	16 X 1.6Mw

Particulars	Details
Project Activity	Pradeep Metals Limited
Project Location	JTH -116, Village Umarani, Taluk Jath, Dist. Sangali, Maharashtra
Project Capacity & Units	2.1 MW & 01 No
Project Evacuation Details	110/33 KV Jath Sub Station
Total number Wind Turbine	01
Rating	2100 kw
Make	S-97 / Suzlon
Rotor diameter for Wind turbine	97 MTS
Hub height	90 MTS

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

UCR Project ID: 320

Start Date of 1st UCR Crediting Period: 18/07/2014

Project 1st Commissioning Date: 18/07/2014

UCR Monitoring Period No: 01

1st UCR Monitoring Period: 18/07/2014 to 31/12/2022 (08 years 06 months) (both days inclusive)

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

Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	18/07/2014
Carbon credits (CoUs) claimed up to	31/12/2022
Total ERs generated (tCO _{2eq})	1070239 (expressed as CoUs)
Project Emission (tCO _{2eq})	0
Leakage (tCO _{2eq})	0

e) Baseline Scenario>>

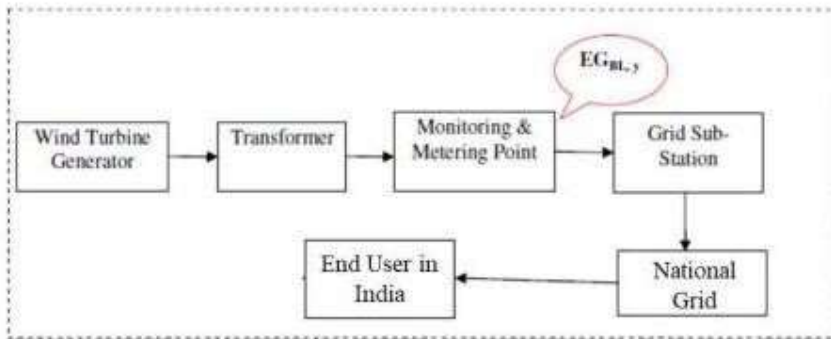
The baseline scenario identified at the MR stage of the project activity is:

□ Grid

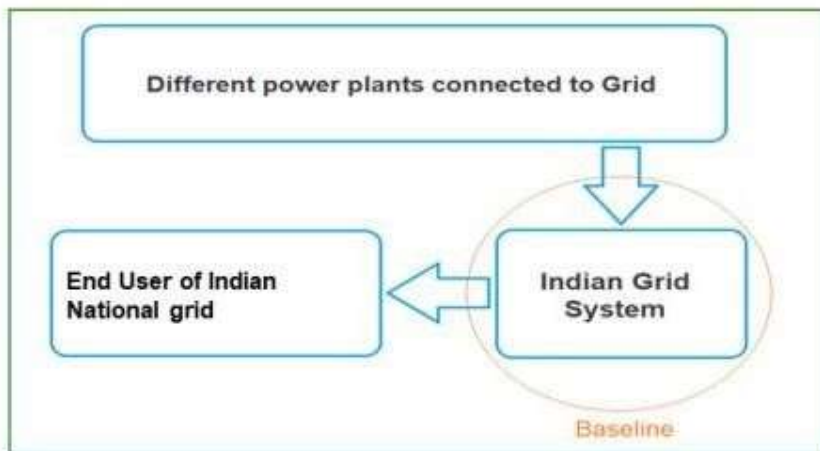
In the absence of the project activity, the equivalent amount of electricity would have been imported from the regional grid (which is connected to the unified Indian Grid

system), 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.

Project Scenario:



Baseline Scenario:



A.2. Location of project activity>>>

Country : India

Name of Wind Farm Bundle	Installed	Village/s	District	State
	Capacity			
	(MW)			
Betul Wind Farms	49.5	Derpani, Kabramall, Khamla, Baramcha, Badgaon and Dhar	Betul	Madhya Pradesh
Blyth Wind Park	25.6	Borampalli/ Kalyandurg	Ananthapur	Andhra Pradesh
Pradeep Metals WTG	2.1	Umarani	Sangali	Maharashtra



Blyth Wind Park			
INST_CAPACITY (MW)	WTG_MODEL_NAME	LONGITUDE	LATITUDE
1.6	GE-1.6 XLE ESS	72.4798	16.09721
1.6	GE-1.6 XLE ESS	72.4770	16.09555
1.6	GE-1.6 XLE ESS	72.5403	16.09643
1.6	GE-1.6 XLE ESS	72.5456	16.09465
1.6	GE-1.6 XLE ESS	72.5265	16.09113
1.6	GE-1.6 XLE ESS	72.4554	16.09218
1.6	GE-1.6 XLE ESS	72.5293	16.08920
1.6	GE-1.6 XLE ESS	72.5709	16.08253
1.6	GE-1.6 XLE ESS	72.5644	16.08095
1.6	GE-1.6 XLE ESS	72.5901	16.07856
1.6	GE-1.6 XLE ESS	72.4715	16.10265
1.6	GE-1.6 XLE ESS	72.4693	16.10440
1.6	GE-1.6 XLE ESS	72.4644	16.10623
1.6	GE-1.6 XLE ESS	72.5285	16.11338
1.6	GE-1.6 XLE ESS	72.4963	16.11740
1.6	GE-1.6 XLE ESS	72.4952	16.11931

Betul Wind Farms				
Location No.	Village	Dist.	Latitude	Longitude
B17	Derpani	Betul	21.50088°	77.54987°
B18	Derpani	Betul	21.50298°	77.55217°
B19	Derpani	Betul	21.50360°	77.55685°
B20	Kabramall	Betul	21.48359°	77.54753°
B21	Kabramall	Betul	21.53241°	77.54646°
B22	Kabramall	Betul	21.52778°	77.55361°
B27	Kabramall	Betul	21.52125°	77.55296°
B28	Kabramall	Betul	21.50822°	77.55732°
B31	Kabramall	Betul	21.536728°	77.546868°
B06	Khamla	Betul	21.49124°	77.51131°
B07	Khamla	Betul	21.49250°	77.51431°
B08	Baramacha	Betul	21.49627°	77.51817°
B12	Badgaon	Betul	21.49906°	77.53222°
B13	Badgaon	Betul	21.51374°	77.52738°

B14	Badgaon	Betul	21.49551°	77.53724°
B11	Badgaon	Betul	21.50557°	77.53116°
B16	Badgaon	Betul	21.48640°	77.54503°
B25	Baramacha	Betul	21.49942°	77.52105°
B15	Derpani	Betul	21.49737°	77.54143°
D01	Dhar	Betul	21.49889°	77.54490°
D02	Dhar	Betul	21.52537°	77.54765°
D03	Dhar	Betul	21.46739°	77.55531°
D04	Dhar	Betul	21.47085°	77.55958°
D05	Dhar	Betul	21.47279°	77.56774°
B01	Khamla	Betul	21.49686°	77.49503°
B02	Khamla	Betul	21.49753°	77.49802°
B03	Khamla	Betul	21.49130°	77.50460°
B04	Khamla	Betul	21.49321°	77.50591°
B05	Khamla	Betul	21.49760°	77.50891°
B10	Khamla	Betul	21.49587°	77.52537°
B23	Khamla	Betul	21.500315°	77.503947°
B24	Khamla	Betul	21.49899°	77.51071°
B29	Khamla	Betul	21.511166°	77.525649°

Pradeep Metals WTG					
Location	Village	Dist.	Taluk	Latitude	Longitude
JTH -116	Umarani	Sangali	Jath	N16 53 34.1	E75 16 57.2

A.3. Parties and project participants >>

Party (Host)	Participants
India	<p>Project Proponents: Blyth Wind Park Private Limited (BWPPPL), Betul Wind Farms Pvt Limited (BWFPL) and Pradeep Metals Limited (PML)</p> <p>UCR Aggregator: Climekare Sustainability Pvt. Ltd.</p> <p>UCR ID: 336812961</p> <p>Email: sustainability@climekare.com</p>

A.4. 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*

UCR Standardized Baseline Emission Factor Applied for the period 2014-2022

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

A.5. Crediting period of project activity >>

Length of the crediting period corresponding to this monitoring period: 08 years 06 months. **Date:** 18/07/2014 to 31/12/2022 (both days inclusive)

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

Consultant: Climekare Sustainability Pvt. Ltd.

Email: sustainability@climekare.com

Phone: 9811752560

UCR ID: 336812961

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>>

- a) Description of the installed Technologies, technical processes and equipment:
Ref: (Technical information given on Section – A.1.(b))

- b) Information on the implementation and the actual operation of the project activity, including relevant dates:

Name of Wind Farm Bundle	Installed	Village/s	District	State
	Capacity			
	(MW)			
Betul Wind Farms	49.5	Derpani, Kabramall, Khamla, Baramcha, Badgaon and Dhar	Betul	Madhya Pradesh
Blyth Wind Park	25.6	Borampalli/ Kalyandurg	Ananthapur	Andhra Pradesh
Pradeep Metals WTG	2.1	Umarani	Sangali	Maharashtra

Blyth Wind Park Total Installed Capacity-25.6 MW			
INST_CAPACITY (MW)	LONGITUDE	LATITUDE	Commissioning Date
1.6	72.4798	16.09721	01/09/2014
1.6	72.4770	16.09555	01/09/2014
1.6	72.5403	16.09643	01/09/2014
1.6	72.5456	16.09465	01/09/2014
1.6	72.5265	16.09113	01/09/2014
1.6	72.4554	16.09218	01/09/2014
1.6	72.5293	16.08920	01/09/2014
1.6	72.5709	16.08253	01/09/2014
1.6	72.5644	16.08095	01/09/2014
1.6	72.5901	16.07856	01/09/2014
1.6	72.4715	16.10265	09/04/2015
1.6	72.4693	16.10440	07/01/2015
1.6	72.4644	16.10623	07/01/2015
1.6	72.5285	16.11338	07/01/2015
1.6	72.4963	16.11740	07/01/2015
1.6	72.4952	16.11931	07/01/2015

Name	Installed Capacity (MW)	Commissioning Date
Pradeep Metals WTG (JTH 115)	2.1	31/03/2015

Betul Wind Farms (GROUP-I) 19.5 MW				Betul Wind Farms (GROUP-II) 30 MW			
WTG ID	Total WTGs	Capacity MW	Commissioning Date	WTG ID	Total WTGs	Capacity MW	Commissioning Date
B20, B22 ,B27	3	4.5	18/07/2014	B11	1	1.5	17/10/2014
B21, B28	2	3	09/08/2014	B08, B25	2	3	31/12/2014
B17, B18 ,B19 ,B31	4	6	22/09/2014	B06, B07	2	3	01/01/2015
B16	1	1.5	02/10/2014	B01,B02 , B03, B0 5, B10, B 23, B24	7	10.5	03/01/2015
B14	1	1.5	04/10/2014	B04	1	1.5	04/01/2015
B12	1	1.5	17/10/2014	B29	1	1.5	05/01/2015
B13	1	1.5	17/10/2014	D01, D02 ,D04	3	4.5	06/01/2015
				B15,D03 ,D05	3	4.5	07/01/2015
Total	33 WTGs Installed Capacity 49.5 MW						



Blyth Wind Park



Betul Wind Farms



Pradeep Metals WTG

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

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 WTGs.
- ☐ 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.

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

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



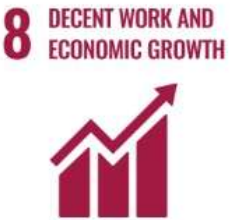
United Nations Sustainable Development Goals :

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

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

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

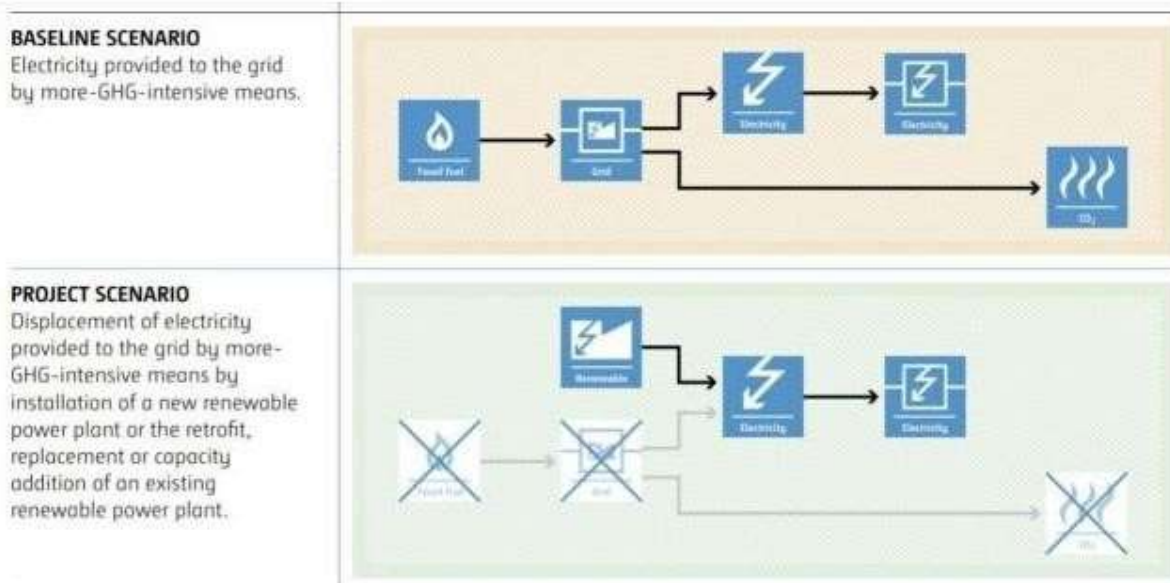
Development Goals	Targeted SDG	Target Indicator (SDG Indicator)
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 <p>SDG 13: Climate Action</p>	<p>13.2: Integrate climate change measures into national policies, strategies and planning</p> <p>Target: 1070239 tCO₂ avoided during this MR</p>	<p>13.2.1: 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)</p>
 <p>SDG 7: Affordable and Clean Energy</p>	<p>7.2: By 2030, increase substantially the share of renewable energy in the global energy mix</p> <p>Target: 1189155 MWh supplied during this MR from wind energy.</p>	<p>7.2.1: Renewable energy share in the total final energy consumption</p>
 <p>SDG 8: Decent Work and Economic Growth</p>	<p>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</p> <p>Target: Training, O&M staff</p>	<p>8.5.1: Average hourly earnings of female and male employees, by occupation, age and persons with disabilities</p>

B.3. Baseline Emissions>>

This section provides details of emission displacement rates/coefficients/factors established by the applicable methodology selected for the project. As per para 19 of the approved consolidated methodology *ACM0002*, version 20, if the project activity is the installation of a new gridconnected renewable power plant/unit, the baseline scenario is the following:

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



The project activity involves setting up of a new wind power plant to harness the green power from wind energy and to use for sale to national grid through PPA arrangement. 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- 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.

B.4. Debundling>>

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

SECTION C. Application of methodologies and standardized baselines

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

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

TYPE: I - Renewable Energy Projects

SCALE: Large Scale

CATEGORY: **ACM0002**, version 20.0

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 77.2 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:

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 77.2 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 77.2 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.

C.3 Applicability of double counting emission reductions >>

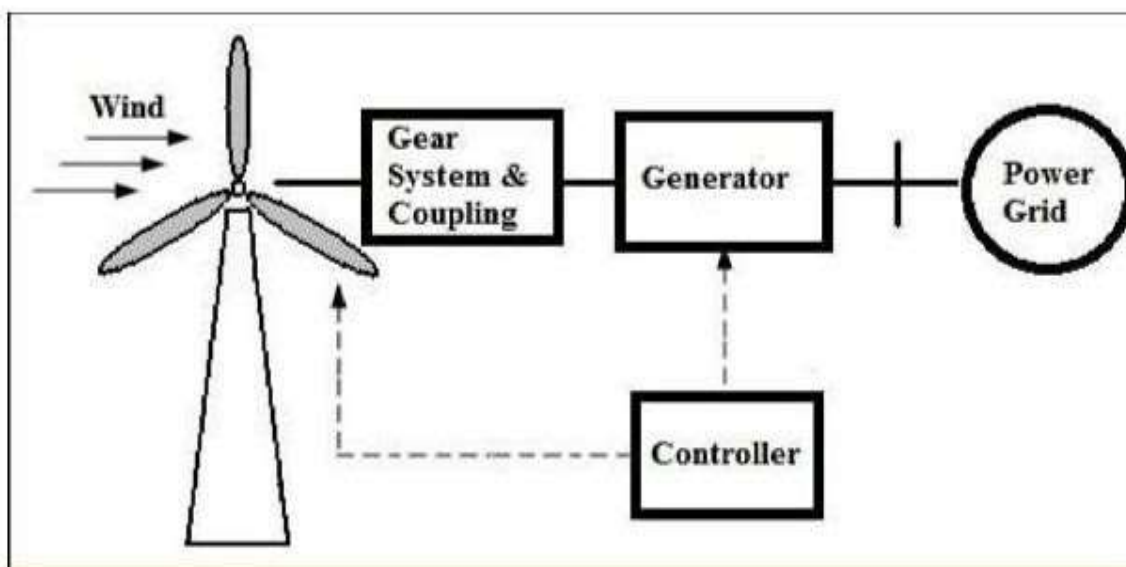
There is no double accounting of emission reductions in the project activity due to the following reasons:

- Project is uniquely identifiable based on its location coordinates,
- Project has dedicated commissioning certificate and connection point,
- Project is associated with energy meters which are dedicated to the generation/feeding point with the grid.

C.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. 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
		N ₂ O	Excluded	Excluded for simplification. This is conservative
Project Activity	Greenfield power project	CO ₂	Excluded	Excluded for simplification. This is conservative
		CH ₄	Excluded	Excluded for simplification. This is conservative
		N ₂ O	Excluded	Excluded for simplification. This is conservative



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

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 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:

Total Installed Capacity: 77.2 MW

Year	MWh Supplied to Grid
2014	13,842.05
2015	1,50,731.82
2016	1,62,965.48
2017	1,48,010.96
2018	1,52,797.97
2019	1,55,669.32
2020	1,25,720.74
2021	1,37,505.98
2022	1,41,910.78

Estimated Annual Emission Reductions: $BE_y = EG_{BL,y} \times EF_{CO_2, GRID, y}$

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)

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

Year	MWh Supplied to Grid	ER
2014	13,842.05	12,458.00
2015	1,50,731.82	1,35,658.00
2016	1,62,965.48	1,46,669.00
2017	1,48,010.96	1,33,210.00
2018	1,52,797.97	1,37,518.00
2019	1,55,669.32	1,40,102.00
2020	1,25,720.74	1,13,149.00
2021	1,37,505.98	1,23,755.00
2022	1,41,910.78	1,27,720.00
Total ER (tCO ₂)		10,70,239.00

Rational: This final value is conservative as all annualized ER values are rounded down and final sum is considered for reporting, which gives the most conservative result. The vintage wise break up is given under the ER excel sheet.

C.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

C.7. Monitoring period number and duration>>

Number: First Monitoring Period

Duration: 18/07/2014 to 31/12/2022 (08 years 06 months)

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

There is no change in the start date of crediting period applicable during this MR submission

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

Not applicable

C.10. Monitoring plan>>

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 noncondensable 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:

Calculated Emission Reductions (ER_y) = 10,70,239 CoUs (10,70,239 tCO₂eq)

B.10. Monitoring plan>>

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

□□ 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 **18/07/2014**.

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 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:	<i>EGy</i>																				
Data unit:	MWh <table border="1"> <thead> <tr> <th>Year</th><th>MWh Supplied to Grid</th></tr> </thead> <tbody> <tr><td>2014</td><td>13,842.05</td></tr> <tr><td>2015</td><td>1,50,731.82</td></tr> <tr><td>2016</td><td>1,62,965.48</td></tr> <tr><td>2017</td><td>1,48,010.96</td></tr> <tr><td>2018</td><td>1,52,797.97</td></tr> <tr><td>2019</td><td>1,55,669.32</td></tr> <tr><td>2020</td><td>1,25,720.74</td></tr> <tr><td>2021</td><td>1,37,505.98</td></tr> <tr><td>2022</td><td>1,41,910.78</td></tr> </tbody> </table>	Year	MWh Supplied to Grid	2014	13,842.05	2015	1,50,731.82	2016	1,62,965.48	2017	1,48,010.96	2018	1,52,797.97	2019	1,55,669.32	2020	1,25,720.74	2021	1,37,505.98	2022	1,41,910.78
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2022	1,41,910.78																				
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):	Total MWh supplied to the grid during this MR =11,89,155.10																				
Monitoring frequency:	<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/s shall be jointly inspected, and sealed by authorised 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 Power Purchase Agreement (PPA) 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>																				

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). As per the monthly accounting procedure reflected in the monthly statement (e.g., JMR and 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: $EGPJ_y = EGExport - EGImport$ (Calculation has been referred in the ER sheet)
Purpose of Data	-Calculation of baseline emissions

Pradeep Metals Main and Check Meter Details

Details :			
i) Make	EDMI	ii) Meter's Sr. No.	HT 01150002
iii) Type	MK 6 E	iv) Current Rating	-/ 1 Amp
v) Pulses/Unit	42400 IMP/KWH	vi) Voltage Rating	11 KV /110 V
vii) SMF for M.D.	1 (One)	viii) No. of digits	As per meter display.
ix) SMF for Units	1 (One)	x) Meter Class	0.2 S

Details :			
i) Make	EDMI	ii) Meter's Sr. No.	HT 01150001
iii) Type	MK 6 E	iv) Current Rating	-/ 1 Amp
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vii) SMF for M.D.	1 (One)	viii) No. of digits	As per meter display.
ix) SMF for Units	1 (One)	x) Meter Class	0.2 S

FORM –M1				
METER READINGS OF MAIN,CHECK & STANDBY METER FOR THE BILLING MONTH OF JUNE 2022				
Name & Location of the Plant : 220KV/132KV/33KV Metering Point at Kalyanadurg APTRANSCO SubStation.				
Location Of Metering : 220KV/132KV/33KV Metering Point at Kalyanadurg APTRANSCO SubStation, M/s. Blyth Wind Park Pvt Ltd.				
Fuel : WIND	PPA/PWPA/PPWA/OA : OA	Installed Capacity : 10 X 1.6 MW = 16 MW Feeder No:1		
COD: 29.09.2014	OA Exp.Date: 30.04.2039	SLDC Approved date: 11.09.2015		
2. METER MANAGEMENT DETAILS				
Whether seals are Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
If No, Remarks :				
Details of Billing Energy Meters				
Description	Unit	Main Meter	Check Meter	Standby Meter
Make	-----	L&T	L&T	L&T
Meter Number	-----	17074533	17074551	17074554
Type	-----	ER300P	ER300P	ER300P
Meter CT Ratio	PRI - A	300	300	300
	SEC- A	1	1	1
Meter PT ratio	PRI-KV	33KV/√3	33KV/√3	33KV/√3
	SEC-V	110V/√3	110V/√3	110V/√3
Multiplication	-----	1000	1000	1000

FORM –M1				
METER READINGS OF MAIN,CHECK & STANDBY METER FOR THE BILLING MONTH OF JUNE 2022				
Name & Location of the Plant : 220KV/132KV/33KV Metering Point at Kalyanadurg APTRANSCO SubStation.				
Location Of Metering : 220KV/132KV/33KV Metering Point at Kalyanadurg APTRANSCO SubStation, M/s. Blyth Wind Park Pvt Ltd.				
Fuel : WIND	PPA/PWPA/PPWA/OA : OA	Installed Capacity : 6 X 1.6 MW = 9.6 MW Feeder No:2		
COD: 29.09.2014	OA Exp.Date: 30.04.2039	SLDC Approved date: 11.09.2015		
2. METER MANAGEMENT DETAILS				
Whether seals are Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
If No, Remarks :				
Details of Billing Energy Meters				
Description	Unit	Main Meter	Check Meter	Standby Meter
Make	-----	Secure	Secure	Secure
Meter Number	-----	APX01687	APX01688	APX01689
Type	-----	E3MO24	E3MO24	E3MO24
Meter CT Ratio	PRI - A	200	200	200
	SEC- A	1	1	1
Meter PT ratio	PRI-KV	33KV/√3	33KV/√3	33KV/√3
	SEC-V	110V/√3	110V/√3	110V/√3
Multiplication	-----	1000	1000	1000

Station/ Generation	Capacity in MW	Meter No.	Voltage Level	Connected at Substation
M/S Betul Wind Farm Limited(Old Meter 01-12-22 to 16-12-2022)	49.5 MW	MPC62876(Main Meter)	132KV	132 KV S/S MPPTCL Gudgaon
		MPC62875 (Check Meter)		
M/S Betul Wind Farm Limited(New Meter 16-12-22 to 31-12-2022)		Q0662976		
		Q0662977		

49.5 MW Large Scale Wind Power Project of Betul Wind Farms by Atria Brindavan Power Pvt. Ltd.														
Month--Wise Energy Delivered to Grid (kWh)														
Year	January	February	March	April	May	June	July	August	September	October	November	December	G. Total (kWh)	G. Total (MWh)
2014							3,45,000	12,91,000	18,43,599	15,60,152	12,30,000	17,86,000	80,55,751	8,055.75
2015	28,62,999	44,80,000	53,26,000	81,45,000	1,30,47,000	1,13,87,000	1,83,11,000	1,79,74,434	74,46,000	29,44,216	24,03,047	33,25,706	9,76,52,402	97,652.40
2016	20,90,391	62,54,578	71,98,509	1,12,13,094	1,38,22,725	1,16,42,900	1,38,85,925	1,61,39,389	1,23,80,280	59,45,404	25,48,882	37,66,472	10,68,88,549	1,06,888.55
2017	39,87,971	51,03,677	76,97,993	1,34,94,632	1,10,94,518	1,15,00,809	1,66,39,024	1,21,81,117	54,34,888	35,68,084	19,02,760	28,66,995	9,54,72,468	95,472.47
2018	23,18,152	39,30,691	79,41,253	94,39,501	1,28,92,506	1,08,37,231	1,59,76,420	1,86,52,908	91,94,773	33,15,405	14,48,122	16,88,435	9,76,35,397	97,635.40
2019	37,17,606	59,25,000	38,66,000	56,55,849	1,49,18,610	1,20,46,282	1,58,45,878	1,76,86,133	97,05,549	36,95,792	18,50,381	27,50,190	9,76,63,270	97,663.27
2020	35,31,142	39,21,817	61,00,026	66,96,776	1,15,30,427	98,05,682	58,76,722	1,60,72,985	54,34,179	52,99,915	35,62,406	19,83,790	7,98,75,867	79,875.87
2021	35,83,734	36,84,503	67,97,299	75,05,752	1,22,52,864	1,24,68,465	1,50,74,502	1,14,83,298	77,25,535	40,67,000	32,74,857	27,54,661	9,06,72,270	90,672.27
2022	41,71,000	51,60,000	67,54,000	1,03,43,000	1,27,42,000	1,00,06,000	1,45,40,000	1,25,46,000	85,86,000	71,97,000	21,07,000	26,38,000	9,67,90,000	96,790.00
Total Generation from 2014 to December 2022 in kWh													77,07,05,974	7,70,705.97

26.5 MW Large Scale Wind Power Project of Blyth Wind Park by Atria Brindavan Power Pvt. Ltd.														
Month--Wise Energy Delivered to Grid (kWh)														
Year	January	February	March	April	May	June	July	August	September	October	November	December	G. Total	G. Total (MWh)
2014									20,35,620	10,41,740	13,52,010	13,56,930	57,86,300	5,786.30
2015	12,37,460	27,65,020	19,35,860	19,77,990	21,10,870	65,25,260	1,17,50,620	95,84,810	58,65,520	14,73,770	21,53,530	25,52,790	4,99,33,500	49,933.50
2016	27,00,030	24,57,320	24,24,490	21,94,010	53,40,770	79,18,680	89,24,040	77,50,750	67,90,610	26,25,350	16,05,360	23,06,890	5,30,38,300	53,038.30
2017	24,91,610	27,11,990	21,46,620	28,73,340	55,55,070	85,09,290	1,04,25,250	63,59,400	30,77,500	16,39,700	16,41,100	21,89,200	4,96,20,070	49,620.07
2018	11,69,900	20,88,100	25,15,600	18,00,900	28,29,000	81,51,400	1,14,55,800	1,15,84,100	34,02,100	20,72,300	20,93,600	17,83,700	5,10,46,500	51,046.50
2019	18,66,500	21,87,300	18,99,700	22,19,900	50,24,600	73,81,300	1,06,07,900	1,01,99,800	60,20,600	15,67,400	20,36,200	29,09,100	5,39,20,300	53,920.30
2020	21,20,600	19,72,000	16,04,900	22,12,300	42,16,000	67,65,500	47,72,000	80,17,900	41,25,900	23,58,900	17,26,100	23,29,500	4,22,21,600	42,221.60
2021	20,10,600	18,38,100	23,56,000	19,27,500	35,82,400	71,16,300	86,02,500	54,11,400	57,95,600	11,47,500	16,08,700	17,51,300	4,31,47,900	43,147.90
2022	17,00,700	16,53,700	21,59,400	17,89,600	61,49,600	58,80,700	76,59,000	60,77,600	42,09,700	12,86,400	11,85,500	17,22,600	4,14,74,500	41,474.50
Total Generation from 2014 to December 2022 in kWh													39,01,88,970	3,90,188.97

Pradeep Metals

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Month	Export Units (Kwh)	Export Units (Kwh)	Export Units (Kwh)	Export Units (Kwh)	Export Units (Kwh)	Export Units (Kwh)	Export Units (Kwh)	Export Units (Kwh)	Export Units (Kwh)
January		0	2,00,895.16	0	1,55,318.70	1,31,020.98	1,91,460.69	1,43,409.59	2,03,762.05
February		0	2,14,048.39	0	1,99,038.80	87,889.87	2,14,771.36	1,95,447.95	1,59,491.68
March		58	2,95,145.93	0	1,58,467.03	2,57,567.89	2,31,050.01	1,72,279.92	1,84,940.72
April		48,791.80	3,24,430.66	0	2,26,439.80	2,60,146.23	2,02,643.84	2,16,470.90	1,95,347.61
May		2,86,914.54	4,59,158.01	2,05,267.60	3,10,272.07	3,74,747.70	3,13,345.94	3,92,127.65	4,46,863.68
June		5,64,873.06	5,72,021.68	5,80,647.71	5,57,895.48	5,70,248.28	5,60,157.16	5,12,887.28	4,36,383.78
July		7,32,542.64	6,98,693.54	8,62,612.80	8,35,951.33	7,23,593.29	4,23,022.37	6,39,787.51	5,98,972.51
August		5,31,844.02	2,74,235.65	4,74,419.96	7,42,932.26	7,66,930.86	6,97,340.52	3,83,643.80	5,29,482.34
September		2,52,822.75	0	2,36,707.67	2,34,189.79	4,74,278.56	1,67,885.59	4,39,322.13	3,17,393.27
October		1,62,340.05	0	1,11,416.50	2,52,785.88	1,78,654.95	1,50,170.70	1,96,744.10	1,68,751.92
November		2,69,914.51	0	1,89,583.94	2,02,371.26	19,478.13	2,18,125.32	2,28,237.18	2,11,570.09
December		2,95,816.14	0	2,57,770.17	2,40,411.67	2,41,193.24	2,53,298.46	1,65,451.64	1,93,321.40
Total Units	0	3145918	3038629	2918426	4116074	4085750	3623272	3685810	3646281.05

(some credit issues were adjusted against unit for the period of Sept 2015 to 2017.)

Total Units (MWh)	0	3145.918	3038.629	2918.426	4116.074	4085.750	3623.272	3685.810	3646.281
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Data/Parameter	EF, CO ₂ , GRID, y
Data unit	0.9 tCO ₂ /MWh
Description	A "grid emission factor" refers to a CO ₂ emission factor (tCO ₂ /MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an

	emission factor of 0.9 tCO ₂ /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
of data Value(s) applied	UCR Standard Protocol As per Standard
Measurement methods and procedures	Fixed
Monitoring frequency	NA
Purpose of data	To estimate baseline emissions

