



**Monitoring report form for CDM project activity
(Version 09.0)**

MONITORING REPORT

Title of the project activity	Wind Power Project of Hindustan Platinum in Maharashtra		
UNFCCC reference number of the project activity	5425 ¹		
Version number of the PDD applicable to this monitoring report	08		
Version number of this monitoring report	01		
Completion date of this monitoring report	09/11/2021		
Monitoring period number	03		
Duration of this monitoring period	02/11/2016 to 31/12/2020 (Inclusive of both dates)		
Monitoring report number for this monitoring period	01		
Project participants	M/s Hindustan Platinum Pvt. Ltd		
Host Party	India		
Applied methodologies and standardized baselines	Applied Methodologies: AMS I.D – Grid Connected Renewable Electricity Generation, Version 17 ² Standardized baselines – N/A		
Sectoral scopes	1. Energy industries (renewable / non-renewable sources)		
Amount of GHG emission reductions or net anthropogenic GHG removals achieved by the project activity in this monitoring period	Amount achieved before 1 January 2013	Amount achieved from 1 January 2013 until 31 December 2020	Amount achieved from 1 January 2021
	0	17,808	0
Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD	23,875 tCO _{2e}		

¹ <http://cdm.unfccc.int/Projects/DB/SGS-UKL1321357848.74/view>

² <https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK>

SECTION A. Description of project activity

A.1. General description of project activity

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Hindustan Platinum Pvt. Ltd. (HPPL) established in 1961. It is a manufacturer of precious metals products having industrial applications across a broad spectrum of industries. HPPL has decided to invest into renewable energy sector by setting up new Wind Turbine Generators (WTGs) in year 2008. Based on this decision HPPL (now onwards referred as Project Participant/ PP) has invested in setting up of 2 nos. of 1650 kW WTGs at Revangoan (Bhud) village of Khanapur Taluka of Sangli District in Maharashtra state in India. Details of the site are as below,

Table - 1: Site Details

PP	Capacity	Tower No.	Gat No.	Model No.	Commissioned On
HPPL	1650 kW	R – 8	722	V 82	31/03/2008
	1650 kW	R – 22	297	V 82	31/03/2008

The technology used for the project activity is supplied by well-established firm - Vestas Wind Technology India Private Limited, which is 100% subsidiary of VESTAS A/S Denmark. Both the WTGs used in the project activity are V 82 type WTGs with nominal power capacity 1650 kW. The main features of the WTG are given in Table - 2. Power generated is exported to North, East, West, North-East (NEWNE) grid of India.

Purpose of the project activity:

The main purpose of the project activity is to generate electrical energy through sustainable means using wind power resources and to reduce the dependence on fossil fuels for energy requirements. The Project Proponent (PP) has signed a power purchase agreement (PPA) with “The Maharashtra State Electricity Distribution Company Limited” (MSEDCL) and exports the electricity to the local grid. The project displaces electricity from the NEWNE grid thereby helping in significant reduction of GHG emissions. Apart from generation of renewable electricity, the project has also been conceived for the following:

- To enhance the propagation of commercialization of wind turbines in the region.
- Contribute to the sustainable development of the region.
- To reduce the prevalent regulatory risks for this project through revenues from the CDM

The electricity generated by these 2 WTGs is measured using a dedicated State Electricity Board's energy meter, details of which are mentioned in Appendix 2 of MR.

Brief description of the installed technology and equipments:

The project activity consists of 2 WTGs of 1650 kW manufactured, supplied & maintained by Vestas Wind Technology India Pvt. Ltd. The WTGs are installed in Maharashtra, India. The technology is a clean technology since there are no GHGs emissions associated with the electricity generation.

Generated electricity is transmitted through a transmission line to the nearest substation. The turbines used are certified and manufactured according to International Standards. The technological key features are as follows:

Table- 2: Salient Features of Vestas V 82/1650

Sr. No.	Item	Description
1.	Make	Vestas Wind technology India Pvt Ltd.
2.	Model No.	V 82

Operational Conditions		
3.	Calculated Lifetime	20 years
4.	Cut-in Wind Speed (m/s)	3.5
5.	Cut-out Wind Speed (m/s)	20 (10 min. average)
6.	Maximum Rotational Speed	14.4 rpm
Main Specification		
7.	Rotor Diameter (m)	82
8.	No. of Blades	3
9.	Power Control	Active Stall
10.	Rotational Speed (Synchronous)	14.4 rpm
11.	Rotor Position	Upwind
12.	Nominal Power	1650 kW
13.	Hub Height	78 m
Rotor		
14.	Rotor Diameter	82 m
15.	Tilt Angle	5°
16.	Swept Area	5281 m ²
Blade		
17.	Material	Carbon Fiber/Epoxy/Wood
18.	Blade Length	40 m
19.	Blade Profile	FFA-W, NACA 63.4
20.	Air Break	Full Break
Hub		
21.	Type	Spherical
22.	Material	EN-GJS-400-18U-LT
Main Shaft		
23.	Type	Forged shaft and flange
24.	Material	34CrNiMo6
Main Bearing		
25.	Front Bearing	Spherical roller bearing
Main Gearbox		
26.	Gear ratio	1:70.2
27.	Mechanical Power	1800 kW
Couplings		
28.	Gearbox/ Generator	Flexible
Generator		
29.	Nominal Power	1650 kW
30.	Rotational speed (synchronous)	1012 rpm at rated power
31.	Insulation Class	F/B
32.	Protection Class (IEC529)	IP54
Machine Frame		
33.	Type	Casted front end
34.	Material	EN-GJS-400-18U-LT
Yawing System		
35.	Yaw Nearing Type	Ball bearing, internal gearing
36.	Yaw Motor	6 nos.
37.	Yaw Gear	6 pcs
38.	Gearing Ration	1:1666

39.	Yaw Brake	Hydraulic disc brake, 6 pcs
Mechanical Brake		
40.	Type	Fail safe – Hydraulic release
41.	Position	Mounted on high-speed shaft
42.	Number of calipers	1 pc.
Tower		
43.	Type	Conical tubular
44.	Height	75.5 m
45.	Corrosion protection	Acc. To ISO 12944:C5I
Control System		
46.	Manufacture	NEGM Control System
47.	Type	Microprocessor based

Relevant dates for the project activity:

Table- 3: Relevant dates

Tower No.	Start date of the project activity	Commissioning of WTGs	Registration of project activity under CDM	Second Monitoring Period
R – 8	16/01/2008 ³	31/03/2008	17/07/2012	30/10/2013 to 01/11/2016 (Both days included)
R – 22		31/03/2008		

Total emission reductions achieved in this monitoring period:

For the current monitoring period, the estimated emission reductions as per the registered PDD is found to be 23,875 tCO_{2e}, due to generation of 26,309 MWh. During the reported monitoring period 02/11/2016 to 31/12/2020 (both days included) the project activity has supplied 19,624 MWh of electricity, and thus contributing to the GHG reductions of 17,808 tCO_{2e}. During this monitoring period no major breakdown has taken place and the plant was operational throughout the current monitoring period.

A.2. Location of project activity

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The project activity is located at Revangon village of Maharashtra state of India. The site is about 400 km from Mumbai and 200 km from Pune. The nearest railway station is Karad which is 45 km from the project site. The nearest airport is Pune which is 200 km from project site.

Table- 4: Location details

Location No.	R – 8	R – 22
Country	India	India
State	Maharashtra	Maharashtra
District	Sangli	Sangli
Taluka	Khanapur	Khanapur
Village	Revangoan (Bhud)	Revangoan (Bhud)
Latitude	17° 16' 48.7" N	17° 16' 27.1" N
Longitude	74° 38' 13.2" E	74° 38' 50.2" E
Gat No.	722	297

³ The P.O released and as per the registered PDD of the project activity



Figure 1 & 2 - Satellite view of R-22 & R-8



Figure 3 - Map showing Khanapur taluka in district Sangli of Maharashtra

A.3. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
India (host Party)	M/s Hindustan Platinum Pvt. Ltd. (Private entity A)	No

A.4. References to applied methodologies and standardized baselines

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Type I : Renewable Energy Project (Small Scale)
 Title : AMS I. D. Grid connected renewable electricity generation
 Version : 17⁴
 Tool : Tool to calculate the emission factor for an electricity system, Version 04.0.0⁵.

A.5. Crediting period type and duration

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Type of crediting period	Fixed
Crediting period	01/08/2012 to 31/07/2022
Length of the Crediting Period	10 Years
Current Monitoring period	02/11/2016 to 31/12/2020 (both days included)
Length of the Monitoring Period	1521 Days

SECTION B. Implementation of project activity**B.1. Description of implemented project activity**

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The total installed capacity of the project is 3.30 MW, which comprises in total 2 nos of 1650 kW Wind Turbine Generator (WTG). The technology used for the project activity is supplied by well-established firm - Vestas Wind Technology India Private Limited, which is 100% subsidiary of VESTAS A/S Denmark. Both the WTGs used in the project activity are V 82 type WTGs with nominal power capacity 1650 kW. The commissioning date of All the WTGs of the project activity is given below:

PP	Capacity	Tower No.	Site (Village)	Commissioned On
HPPL	1650 kW	R — 8	Revangoan (Bhud)	31/03/2008
	1650 kW	R — 22	Revangoan (Bhud)	31/03/2008

For detailed description of technical specifications of the project, please refer section A.1 of the Monitoring Report.

Both the WTGs have run successfully during the reported monitoring period. All the physical and technical features as stated in the registered PDD are in place and project has been operated as described in the registered PDD.

The schematic diagram of project WTG and metering arrangement is depicted in section C below:

No events or situations happened during the reported monitoring period which can alter the applicability of the applied methodology.

⁴ <https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTFQOQFQQH4SBK>

⁵ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v4.0.pdf>

B.2. Post-registration changes**B.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents**

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There are no temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents during the current monitoring period.

B.2.2. Corrections

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There is no correction during the current monitoring period

B.2.3. Changes to the start date of the crediting period

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There are no changes to the start date of the crediting period during the current monitoring period.

B.2.4. Inclusion of monitoring plan

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There is no inclusion of monitoring plan during the current monitoring period

B.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

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There are no permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents to project design during the current monitoring period.

B.2.6. Changes to project design

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There has not been any change in the PDD during the current monitoring period.

B.2.7. Changes specific to afforestation or reforestation project activity

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Not Applicable.

SECTION C. Description of monitoring system

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Roles and responsibilities:

Director – Finance: In the project management structure Director – Finance is responsible for the overall project management. Director – Finance is responsible to plan and allocate the annual budget for operation, estimation of the likely operating cost, electricity dispatch, organizing third party contractors, revenue collection etc. Director – Finance checks the monthly electricity generated and annual emission reduction calculations. Director – Finance is responsible for any leakage of emissions in the project boundary.

Manager: Manager is assisting to Director – Finance for completing the task discussed above. Manager is responsible for the electricity generations at the individual wind turbine installations. Manager crosschecks the credit notes with the log book regularly and report to Director – Finance for any abnormality. Operation and maintenance of wind generators is being done by Vestas and they are being responsible to Manager. Manager is also responsible for conducting annual calibration of main & check meters.

Site Supervisor: Site supervisor from Vestas is responsible for onsite activities like operations & maintenance etc. Site supervisor is also responsible for recording the electricity meter reading and upkeep of WTG controllers.

Record Handling: OEM contractors are collecting daily report with all the related parameters. All the records are given to Manager every month. Manager can further pass on the information to concern person as shown in above organization chart. Manager is also responsible for record keeping.

JMR Procedure: Once in a month MSEDCL Asst engineer is taking reading at Karve sub station where both the machines are connected. Readings are noted by representatives from different division which is one official from Dy Elect. Engineer from Sangli Windmill division, one official from Asst. Engineer / Junior Engineer from Vita Sub division, Executive Engineering from Vita division, and one engineer from Vestas are present.

Once this JMR is completed, then within 5 days (approx.), JMR report to be submitted to Vita division and sub division and MSEDCL, Sangli circle office. Thereafter processing this JMR, MSEDCL releases the credit notes to individual developers name within 15th of every month. Accordingly invoice can be raised based on credit notes and payment releases after 45 days of invoice submission.

Internal Audits and performance review

These records are regularly audited and checked by the senior officials from PP during their visits to the site. The senior officials visit once in a year and audit the records. The officials crosschecks the emissions reduction claimed in PDD with respect to actual emissions reduction. For any deviation from the actual emission reduction values and reported values corrective action is being suggested by senior official to calculate the conservative emission reduction. All corrective actions are being recorded in the logbook.

Training

The O & M persons follow rigorous training based upon their skills which are as follows:

1. Basic safety as per GWO standard (First aid, Fire fight, rescue)
2. Site induction
3. LOTO (LOCK OUT TAG OUT) All level trainings
4. Basic Technical (Level D, C and B)

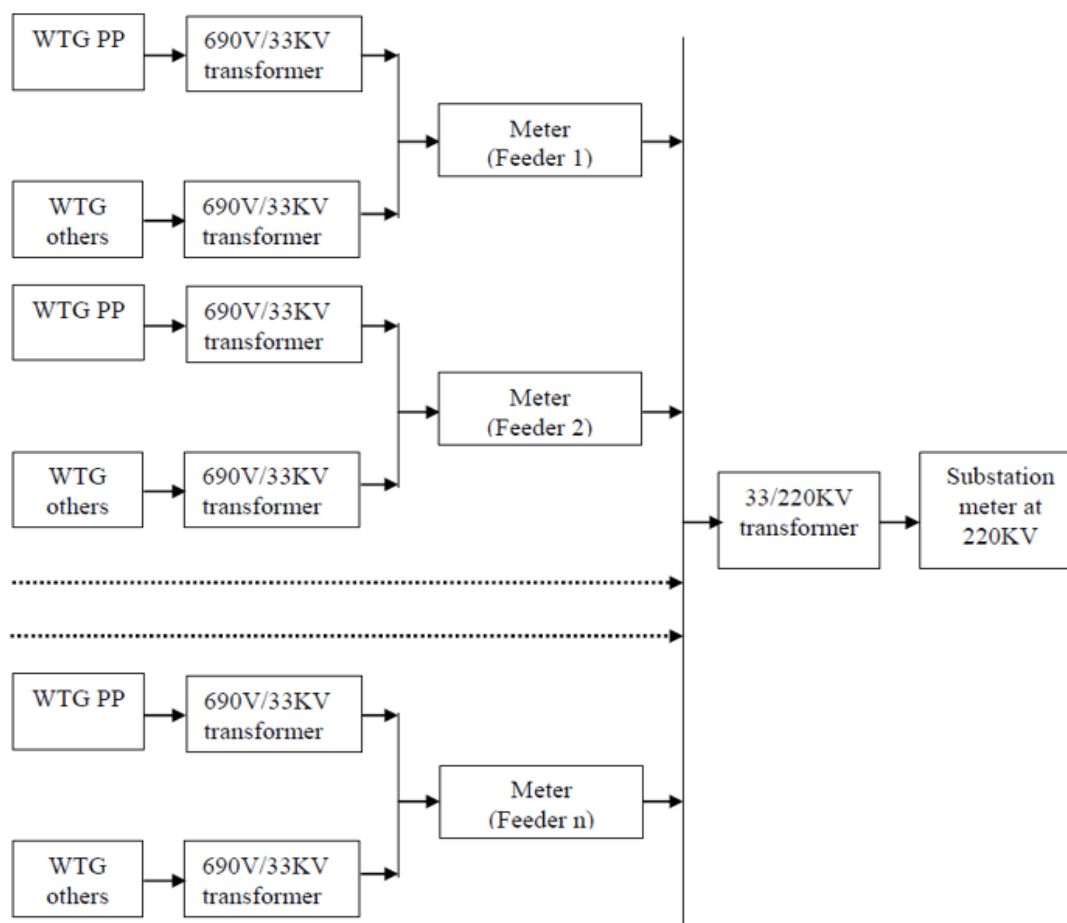
Data is being cross checked in following manner to determine accuracy and uncertainty level:

1. Reading of main meter and check meter are compared
2. Difference between these values is calculated
3. If difference cross the permitted limits the meters is being checked for accuracy
4. In case of abnormality meter calibration is being done or meter is replaced with similar meter.

Monitoring and Calibration

As emission reductions from the project are determined by the number of units exported to the grid, it is mandatory to have a monitoring system in place and ensure that the project activity produces and exports the rated power at the stipulated norms. The sole objective of having monitoring system is to have a constant watch on the emission reductions.

The schematic representation of project WTG and metering arrangement is shown below:



The delivered energy shall be metered by Vestas and state electricity board at the low voltage side of the step-up transformers in substations. Metering is done either for two /three / more wind mills depending on the location of wind mills and service connection number. Metering equipment is electronic tri-vector meters. The metering equipment is maintained in accordance with electricity standards and has the capability of recording hourly and monthly readings. Records of joint meter reading are maintained at site and a copy is maintained at the head office. All the meters shall be tested for accuracy every calendar year with reference to a portable standard meter. As the instruments are calibrated and marked at regular intervals, the accuracy of measurement can be assured at all times. Necessary records of calibration are maintained by Manager (Wind Project) and state electricity board.

Please refer Appendix- 1 of MR for details about meters used in the project activity.

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante

Data/Parameter	EF _{grid,OM,y}
Unit	tCO ₂ e/MWh
Description	Grid Emission factor (<i>Operating Margin</i>), NEWNE Grid
Source of data	Central Electricity Authority: CO ₂ Baseline Database, Version 4
Value(s) applied	1.01
Choice of data or measurement methods and procedures	As required by the methodology AMS-I.D data from the official source need to be used for the calculation of emission factor and emission reduction. To meet this requirement here, emission factor is calculated by taking average of last three years OM from officially published by Central Electricity Authority, Government of India.

Purpose of data/parameter	Calculation of baseline emissions
Additional comments	The value is fixed ex-ante and it remains same throughout during the crediting period

Data/Parameter	$EF_{grid,BM,y}$
Unit	tCO ₂ e/MWh
Description	Grid Emission factor (<i>Build Margin</i>), NEWNE Grid
Source of data	Central Electricity Authority: CO ₂ Baseline Database, Version 4
Value(s) applied	0.60
Choice of data or measurement methods and procedures	As required by the methodology AMS-I.D data from the official source need to be used for the calculation of emission factor and emission reduction. To meet this requirement here, emission factor is calculated by taking average of last three years OM from officially published by Central Electricity Authority, Government of India.
Purpose of data/parameter	Calculation of baseline emissions
Additional comments	The value is fixed ex-ante and it remains same throughout during the crediting period

Data/Parameter	$EF_{grid,CM,y}$
Unit	tCO ₂ e/MWh
Description	Grid Emission factor (<i>Combine Margin</i>), NEWNE Grid
Source of data	Central Electricity Authority: CO ₂ Baseline Database, Version 4
Value(s) applied	0.9075
Choice of data or measurement methods and procedures	As required by the methodology AMS-I.D data from the official source need to be used for the calculation of emission factor and emission reduction. To meet this requirement here, emission factor is calculated by taking average of last three years OM from officially published by Central Electricity Authority, Government of India.
Purpose of data/parameter	Calculation of baseline emissions
Additional comments	The value is fixed ex-ante and it remains same throughout during the crediting period

D.2. Data and parameters monitored

Data/Parameter	Net Electricity Exported ($EG_{BL,y}$)
Unit	MWh
Description	Net units of electricity due to substituted in the grid during the period y.
Measured/calculated/default	Calculated
Source of data	Data is being calculated from by Joint Meter Reading and Apportioning procedure. Steps to calculate $EG_{BL,y}$ is given below. Same appears in the electricity bill or MSEDCL credit note.
Value(s) of monitored parameter	19,624

Monitoring equipment	Tri-vector meter (accuracy class 0.2s), located in sub-station, is used for monitoring of import and export values at feeder and WTG controllers, located in each WTGs, are used for monitoring of Net Electricity at each WTG, value of $EG_{BL,y}$ is being calculated based on these data. Calibration Frequency: once in a year Accuracy class of the meters: 0.2s <u>For meter details used in current monitoring period, please refer Appendix- 1 of MR.</u>
Measuring/reading/recording frequency	<u>Frequency:</u> Monthly and calculate parameter. <u>Archiving Policy:</u> Paper & Electronic <u>Responsibility:</u> Manager (Wind Project) would be responsible for regular calibration of the meter once in a year. Calibration Frequency: Once in a year. Only main & check meters are being calibrated. WTG controllers cannot be calibrated.
Calculation method (if applicable)	$EG_{BL,y} = (EG_{Export,y} - EG_{Import,y}) \times EG_{PR_Controller,y} / EG_{All_Controller,y}$
QA/QC procedures	Yes, Quality Management System is being used and the same procedures would be available at the project site. The net electricity exported data appearing in the credit note is being cross-checked with the invoices against sale of power raised by PP.
Purpose of data/parameter	Calculation of baseline emissions or baseline net GHG removals by sinks
Additional comments	Data archived: Crediting period + 2 yrs

Data/Parameter	Gross Electricity Exported ($EG_{Export,y}$)
Unit	MWh
Description	Gross units of electricity exported to grid from feeder during the period y.
Measured/calculated/default	Measured
Source of data	Data is being monitored by Main and/or Check meter, located at sub-station.
Value(s) of monitored parameter	173,371
Monitoring equipment	<u>Monitoring:</u> tri-vector meter (accuracy class 0.2s) is used for monitoring of export value ($EG_{Export,y}$). This value is gross export metered at substation feeder and it includes electricity export from project activity and other WTGs connected to same feeder. <u>For meter details used in current monitoring period, please refer Appendix- 2 of MR.</u>
Measuring/reading/recording frequency	<u>Frequency:</u> Measured continuously, recorded Monthly. <u>Archiving Policy:</u> Paper & Electronic <u>Responsibility:</u> Manager (Wind Project) would be responsible for regular calibration of the meter once in a year.
Calculation method (if applicable)	Reading of Main Meter and Check meters for electricity export is being taken every month. Value of $EG_{Export,y}$ is being calculated by deducting export values of the previous months from export values of the current month.
QA/QC procedures	Yes, Quality Management System is being used and the same procedures would be available at the project site. The net electricity exported data appearing in the credit note is being cross-checked with the invoices against sale of power raised by PP.
Purpose of data/parameter	Calculation of baseline emissions or baseline net GHG removals by sinks
Additional comments	Data archived: Crediting period + 2 yrs

Data/Parameter	Gross Electricity Imported ($EG_{Import,y}$)
Unit	MWh
Description	Units of electricity imported from grid from feeder during the period y.

Measured/calculated/default	Measured
Source of data	Data is being monitored by Main and/or Check meter, located at sub-station.
Value(s) of monitored parameter	1,173
Monitoring equipment	Monitoring: tri-vector meter (accuracy class 0.2s) is used for monitoring of export value (EG _{Import,y}). This value is gross export metered at substation feeder and it includes electricity import by project activity and other WTGs connected to same feeder. <u>For meter details used in current monitoring period, please refer Appendix- 2 of MR.</u>
Measuring/reading/recording frequency	<u>Frequency:</u> Measured continuously, recorded Monthly. <u>Archiving Policy:</u> Paper & Electronic <u>Responsibility:</u> Manager (Wind Project) would be responsible for regular calibration of the meter once in a year. <u>Calibration Frequency:</u> Once in a year. Only main & check meters are being calibrated.
Calculation method (if applicable)	Joint meter reading at the Feeder is recorded by MSEDCL Officials & an energy break-up sheet is issued by MSEDCL after apportioning based on controller data. Reading of Main Meter and Check meters for electricity import are being taken every month. Value of EG _{Import,yis} is being calculated by deducting import values for the previous months from the import values for the current month
QA/QC procedures	Yes, Quality Management System is being used and the same procedures would be available at the project site. The net electricity exported data appearing in the credit note is being cross-checked with the invoices against sale of power raised by PP.
Purpose of data/parameter	Calculation of baseline emissions or baseline net GHG removals by sinks
Additional comments	Data archived: Crediting period + 2 yrs

Data/Parameter	Export as per Project WTG Controller (EG_{PR_Controller,y})
Unit	MWh
Description	Electricity exported from project WTG, as recorded in controller of WTG during the period y.
Measured/calculated/default	Measured
Source of data	WTG Controller readings
Value(s) of monitored parameter	20,247
Monitoring equipment	Monitoring: WTG controller is being used to monitor this parameter. Data Type: Measured & Calculated Frequency: Measured continuously, recorded Monthly. Archiving Policy: Paper & Electronic Responsibility: Site supervisor is responsible for up keeping of WTG controllers. Calibration Frequency: WTG controllers cannot be calibrated.
Measuring/reading/recording frequency	Frequency: Measured continuously, recorded Monthly.
Calculation method (if applicable)	This value is being taken from the WTG controller considered in the project activity
QA/QC procedures	Yes, Quality Management System is being used and the same procedures would be available at the project site.
Purpose of data/parameter	Calculation of baseline emissions or baseline net GHG removals by sinks
Additional comments	Data archived: Crediting period + 2 yrs

Data/Parameter	Total Export as per WTG Controller ($EG_{All_Controller,y}$)
Unit	MWh
Description	Sum of electricity exported, as metered by controller, of all WTGs connected to same feeder where project WTG are connected, during the period y.
Measured/calculated/default	Measured
Source of data	WTG Controller readings
Value(s) of monitored parameter	180,204
Monitoring equipment	Monitoring: WTG controller is being used to monitor this parameter. Data Type: Measured & Calculated Frequency: Measured continuously, recorded Monthly. Archiving Policy: Paper & Electronic Responsibility: Site supervisor is responsible for up keeping of WTG controllers. Calibration Frequency: WTG controllers cannot be calibrated.
Measuring/reading/recording frequency	Frequency: Measured continuously, recorded Monthly.
Calculation method (if applicable)	This value is being calculated by totalling export value metered by controller of all WTGs (including project WTGs) connected on same feeder as the project activity WTG.
QA/QC procedures	Yes, Quality Management System is being used and the same procedures would be available at the project site.
Purpose of data/parameter	Calculation of baseline emissions or baseline net GHG removals by sinks
Additional comments	Data archived: Crediting period + 2 yrs

D.3. Implementation of sampling plan

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Not applicable

SECTION E. Calculation of emission reductions or net anthropogenic removals

E.1. Calculation of baseline emissions or baseline net removals

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As per the approved methodology AMS I.D version 17 baseline emissions for the project activity are calculated by multiplying the net quantity of electricity supplied by this project activity ($EG_{BL,y}$) with the CO₂ baseline emission factor for the electricity displaced due to the project (EF_{CO_2}) as follows:

$$BE_y = EG_{BL,y} \times EF_{CO_2,grid,y} = EG_{BL,y} \times EF_{grid,CM,y}$$

Where,

$EF_{CO_2,grid,y}$	=	Baseline emission factor
	=	0.9075 tCO ₂ e/MWh
$EG_{BL,y}$	=	Net electricity supplied to the NEWNE regional grid (MWh)
	=	19,624 MWh
BE_y	=	Baseline Emissions
	=	17,808 tCO ₂ e

E.2. Calculation of project emissions or actual net removals

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Since the project activity is a renewable energy project which generates electricity using wind power therefore there are no resulting project emissions.

$$PE_Y = 0 \text{ tCO}_2/\text{year}$$

E.3. Calculation of leakage emissions

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Since the project activity is a renewable energy project which generates electricity using wind power therefore there are no resulting leakage emissions.

$$LE_Y = 0 \text{ tCO}_2/\text{year}$$

E.4. Calculation of emission reductions or net anthropogenic removals

	Baseline GHG emissions or baseline net GHG removals (t CO ₂ e)	Project GHG emissions or actual net GHG removals (t CO ₂ e)	Leakage GHG emissions (t CO ₂ e)	GHG emission reductions or net anthropogenic GHG removals (t CO ₂ e)			
				Before 01/01/2013	From 01/01/2013 until 31/12/2020	From 01/01/2021	Total amount
Total	17,808	0	0	0	17,808	0	17,808

E.5. Comparison of emission reductions or net anthropogenic removals achieved with estimates in the registered PDD

Amount achieved during this monitoring period (t CO ₂ e)	Amount estimated ex ante for this monitoring period in the PDD (t CO ₂ e)
17,808	23,875

E.5.1. Explanation of calculation of “amount estimated ex ante for this monitoring period in the PDD”

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Considering the annual average emission reductions as per the registered PDD which is 5,729 tCO₂e per year, the number of days since commissioning covered during the current monitoring period comes out to be 1,521 days. The amount estimated is using unitary method i.e. $5,729/365 \times 1,521 = 23,875 \text{ tCO}_2\text{e}$.

E.6. Remarks on increase in achieved emission reductions

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The actual emission reduction achieved is 25.41% less than the estimated in the registered PDD. This is due to lower PLF achieved during the current monitoring period as compared to the estimated PLF in the registered PDD.

E.7. Remarks on scale of small-scale project activity

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The installed capacity of the plant is still 3.30 MW which is less than 15 MW. The project activity is still a small-scale project activity.

Appendix – 1 Feeder wise details of meters used during current monitoring period and their calibration schedule are as follows:

WTG No.	Feeder No.	Main Meter	Check Meter	Make and accuracy class	Date of Calibration	Valid Upto	Additional Comments
R-22	11	16595566	16595567	Elster, 0.2 s	22-07-2016	21-07-2017	Meter was working properly and error was within permissible limit
R- 08	13	16636298	16636299	Elster, 0.2 s	22-07-2016	21-07-2017	Meter was working properly and error was within permissible limit
R-22	11	16595566	16595567	Elster, 0.2 s	06-07-2017	05-07-2018	-
R- 08	13	16636298	16636299	Elster, 0.2 s	06-07-2017	05-07-2018	-
R-22	11	16595566	16595567	Elster, 0.2 s	18-08-2020	17-08-2021	-
R- 08	13	16636298	16636299	Elster, 0.2 s	18-08-2020	17-08-2021	-

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
09.0	8 October 2021	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 03.0 of the “CDM project standard for project activities” (CDM-EB93-A04-STAN).
08.0	6 April 2021	Revision to: <ul style="list-style-type: none"> • Reflect the “Clarification: Regulatory requirements under temporary measures for post-2020 cases” (CDM-EB109-A01-CLAR).
07.0	31 May 2019	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 02.0 of the “CDM project standard for project activities” (CDM-EB93-A04-STAN); • Add a section on remarks on the observance of the scale limit of small-scale project activity during the crediting period; • Add "changes specific to afforestation or reforestation project activity" as a possible post-registration changes; • Clarify the reporting of net anthropogenic GHG removals for A/R project activities between two commitment periods; • Make editorial improvements.
06.0	7 June 2017	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 01.0 of the “CDM project standard for project activities” (CDM-EB93-A04-STAN); • Make editorial improvements.
05.1	4 May 2015	Editorial revision to correct version numbering.
05.0	1 April 2015	Revisions to: <ul style="list-style-type: none"> • Include provisions related to delayed submission of a monitoring plan; • Provisions related to the Host Party; • Remove reference to programme of activities; • Overall editorial improvement.
04.0	25 June 2014	Revisions to: <ul style="list-style-type: none"> • Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0)); • Include provisions related to standardized baselines; • Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1; • Change the reference number from <i>F-CDM-MR</i> to <i>CDM-MR-FORM</i>; • Editorial improvement.

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.2	5 November 2013	Editorial revision to correct table in page 1.
03.1	2 January 2013	Editorial revision to correct table in section E.5.
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB 70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01.0	28 May 2010	EB 54, Annex 34. Initial adoption.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: monitoring report		