



**Monitoring report form for CDM project activity**  
**(Version 06.0)**

**MONITORING REPORT**

<b>Title of the project activity</b>	Bannari Amman Spinning Mills Wind Power Project managed by Enercon (India) Ltd.	
<b>UNFCCC reference number of the project activity</b>	4877	
<b>Version number of the PDD applicable to this monitoring report</b>	03	
<b>Version number of this monitoring report</b>	01	
<b>Completion date of this monitoring report</b>	24/11/2018	
<b>Monitoring period number</b>	2 <sup>nd</sup> Monitoring Period	
<b>Duration of this monitoring period</b>	01/07/2012 – 31/08/2018 (Inclusive of both the dates)	
<b>Monitoring report number for this monitoring report</b>	01	
<b>Project participants</b>	M/s Bannari Amman Spinning Mills Limited M/s Enercon(India) Limited	
<b>Host Party</b>	India	
<b>Sectoral scopes</b>	1 : Energy industries (renewable - / non-renewable sources)	
<b>Applied methodologies and standardized baselines</b>	Methodology: (AMS-I.D. Version-16) Grid connected renewable electricity generation  Standard baseline - NA	
<b>Amount of GHG emission reductions or net anthropogenic GHG removals achieved by the project activity in this monitoring period</b>	<b>Amount achieved before 1 January 2013</b>	<b>Amount achieved from 1 January 2013</b>
	0 <sup>1</sup>	102,457
<b>Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD</b>	122,656 <sup>2</sup>	

<sup>1</sup> Date of registration of project activity under CDM mechanism is 17/06/2011. Project activity has received successful issuance of CER from 01/08/2011 to 30/06/2012. PP has done the calculation of the "Emission Reduction" for the current monitoring period but the period 01/07/2012 to 31/12/2012 (which is a part of current monitoring period) falls under pre-2013 phase and true-up period for pre-2013 credits are already over. Therefore, PP has chosen not to claim emission reduction for the period within the current MP. Hence, ER for this period (01/07/2012 to 31/12/2012) has been considered as zero. Detail Calculation of the amount of emission reduction is done transparently in ER sheet.

<sup>2</sup> Emission Reduction comparison calculation is provided transparently in ER calculation sheet.

## SECTION A. Description of project activity

### A.1. General description of project activity

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The purpose of the project activity is to generate electricity by harnessing renewable energy source (Wind) with the help of Wind Turbine Generators (WTGs). The generated electricity by the project activity is supplied to the Indian grid<sup>3</sup>. Thus, replacing the equivalent amount of fossil fuel dominated grid electricity consumption of spinning mills, thereby contributing in GHG emission reduction.

The project activity involves the installation of 14 numbers of WTGs of 800 kW each, in Erode district of Tamil Nadu state, India. The WTGs (Enercon E-48 make) are supplied by Enercon (India) Limited.

Bannari Amman uses the electricity for captive consumption in its industrial unit located at Dindigul District for which Bannari Amman has signed a power purchase agreement with the Tamil Nadu Electricity Board (TNEB).

The first machine under the project activity was commissioned on 17 Jan 2006 and last machine under the project activity was commissioned on 08 Mar 2006. The expected operational lifetime of the project is 20 years.

The total emission reductions achieved under this monitoring period (01-07-2012 to 31-08-2018) (inclusive both days) are 102,457 tCO<sub>2e</sub>.

### A.2. Location of project activity

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The project is located across villages in Chinnaputhur, Govindapuram, Gathelrev, Molarpatti of Dharapuram Taluka, in Erode District of Tamil Nadu state in India. The nearest railway station is located at Palani which is 30 kms away from the site and nearest airport is located at Coimbatore 80 kms away from the project site.

The latitude and longitude of the project activity are given below:

S.No	HT SC Number	Village/City	Taluk	District	State	Country	GPS Coordinate	
							Latitude (N)	Longitude (E)
1	1067	Chinnaputhur	Dharam puram	Erode	Tamil Nadu	India	10°44'11.96"	77°25'02.73"
2	1068	Chinnaputhur					10°44'19.64"	77°24'57.79"
3	1069	Chinnaputhur					10°44'33.46"	77°24'54.42"
4	1077	Chinnaputhur					10°44'42.34"	77°25'02.58"
5	1106	Chinnaputhur					10°44'42.99"	77°25'15.38"

<sup>3</sup> As of 31 December 2013, the Southern grid has also been synchronised with the NEWNE grid, hence forming one unified Indian Grid.

6	1106	Chinnaputhur					10°44'50.68"	77°25'10.05"
7	1086	Gathelrev					10°45'02.42"	77°24'53.92"
8	1077	Chinnaputhur					10°44'49.72"	77°24'58.89"
9	1070	Govindapuram					10°44'50.65"	77°24'35.47"
10	1070	Gathelrev					10°45'03.08"	77°24'35.14"
11	1071	Gathelrev					10°45'13.14"	77°24'30.85"
12	1073	Gathelrev					10°45'21.51"	77°24'20.58"
13	1072	Molarpatti					10°44'50.84"	77°24'19.45"
14	1072	Molarpatti					10°44'57.94"	77°24'15.10"

### 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)	Bannari Amman Spinning Mills Limited (Private)	No
India (host Party)	Enercon (India) Limited (Private)	No

### A.4. Reference to applied methodologies and standardized baselines

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Type I : **'Renewable energy projects'**,

Category I.D<sup>4</sup>. **'Grid Connected Renewable Electricity Generation' (Version 16)**

Sectoral Scope: 01 'Energy industries (renewable-/non-renewable sources).

In line with the application of the AMS-I.D. Version 16, the following tools and guidelines are used:

Title: Tool to calculate the emission factor for an electricity system (Version: 02.1.0)

### A.5. Crediting period type and duration

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Type: Fixed

Start Date: 01/08/2011

End Date: 31/07/2021

<sup>4</sup> <https://cdm.unfccc.int/methodologies/DB/W3TINZ7KKWCK7L8WTXFQQOFQQH4SBK>

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

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The project activity consists of 14 WEGs (800 kW) of Enercon make E-48. The commissioning dates for all the machines include in the project activity are given in the table below.

S.No.	UID No	HTSC no	No of WEGs	Capacity (MW)	DOC
1	BASMLDH-01	1067	1	0.8	17-Jan-06
2	BASMLDH-02	1068	1	0.8	17-Jan-06
3	BASMLDH-03	1069	1	0.8	17-Jan-06
4	BASMLDH-09	1070	2	1.6	17-Jan-06
	BASMLDH-10				
5	BASMLDH-11	1071	1	0.8	17-Jan-06
6	BASMLDH-13	1072	2	1.6	17-Jan-06
	BASMLDH-14				
7	BASMLDH-12	1073	1	0.8	17-Jan-06
8	BASMLDH-04	1077	2	1.6	01-Feb-06
	BASMLDH-08				
9	BASMLDH-07	1086	1	0.8	08-Feb-06
10	BASMLDH-05	1106	2	1.6	08-Mar-06
	BASMLDH-06				

The project uses technology that is environmentally clean and safe since there are no GHG emissions associated with the electricity generation from the windmills. During the monitoring period there were no events or situations occurred, which may impact the applicability of the methodology.

Enercon operation and maintenance activities are ISO certified and all the events are recorded in the log book available at the project site. Referring to the data available it can be inferred that there have not been any major special events for any of the machines that are included in the project activity. As a part of regular maintenance the machines are stopped for mechanical and electrical maintenance for 16 to 18 hours annually and for visual inspection for 6 to 7 hours quarterly. Further the performance report of project WEGs during the monitoring period including the down time, machine availability, grid availability, etc. has been recorded.

The Salient features of the technology are as follows:

Turbine model	Enercon E 48
Rated power	800 kW
Rotor diameter	48m
Hub height	74.85 m
Turbine Type	Gearless horizontal axis wind turbine with variable rotor speed
Power regulation	Independent electromechanical pitch system for each blade.

Design lifetime	20years
Cutin wind speed	2.5 m/s
Rated wind speed	12 m/s
Extreme Wind Speed	59.5 m/s
Rated rotational speed	31.5 rpm
Operating range rot. speed	16.0 - 31.5 rpm
Orientation	Upwind
No of Blades	3
Blade Material	Glass Fibre reinforced Epoxy
Gear box type	Gear less
Generator type	Synchronous generator
Braking	Aerodynamic
Output Voltage	400 V
Yaw System	Active yawing with 4 electric yaw drives with brake motor and friction bearing
Tower	74 m concrete

Enercon (India) Ltd has secured and facilitated the technology transfer for wind based renewable energy generation from Enercon GmbH, has established a manufacturing plant at Daman in India, where along with other components the "Synchronous Generators" using "Vacuum Impregnation" technology are manufactured. Diagram of main component of Enercon make E-48 is shown in below picture:-

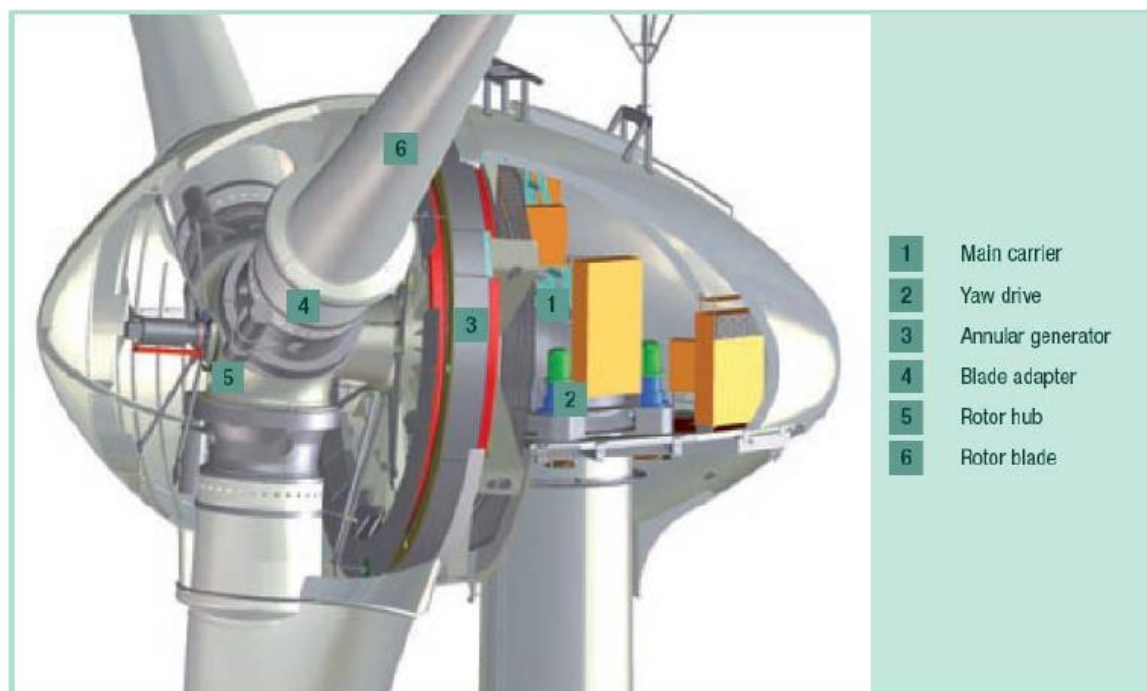


Figure: Enercon make E-48 Diagram.

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

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Not Applicable.

**B.2.2. Corrections**

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Not Applicable.

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

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Not Applicable.

**B.2.4. Inclusion of monitoring plan**

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Not Applicable.

**B.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools**

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Not Applicable.

**B.2.6. Changes to project design**

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Not Applicable.

**SECTION C. Description of monitoring system**

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The monitoring methodology requires that the project-monitoring plan should consist of monitoring quantity of net electricity supplied to the grid in the year y. In order to monitor the mitigation of GHG due to the project activity, the total energy exported needs to be measured. The net energy supplied to grid by the project activity multiplied by emission factor for regional grid, would form the baseline for the project activity.

Since the baseline emission factor is based on an ex-ante determination, monitoring of this parameter is not required. The sole parameter for monitoring is the net electricity exported to the grid.

The accuracy of monitoring parameter is ensured by adhering to the calibration and testing procedure as set in the power purchase agreement. The project will adhere to all the mandatory regulatory and statutory requirements at the state as well as national level.

Tamil Nadu Electricity Board (TNEB) conducts meter reading every month and issues a credit report which shows export and import of electricity to the grid by the WEC. The copies of such credit report are primary document relating to actual number of units fed to the grid and will be maintained for 10+2 years (crediting+ 2 years) by Enercon.

**Calibrations Details of Meters:**

The metering equipment's were inspected & calibrated by State Utility once in three year<sup>5</sup>. All the meters are two-way Tri-vector meters capable of recording import and export of electricity. Meter details for the all the meters are as follows:

S. No	HTSC No		Meter Serial No.	Make	Accuracy Class	Calibration Date	Validity
1	1067	Old Meter	04721986	ELSTER	0.5	25/01/2012	25/01/2015
		New Meter	HT2160906	EDMI	0.2s	31/01/2017	31/01/2020
2	1068	Old Meter	TN900964	SECURE	0.5	25/01/2012	25/01/2015
		New Meter	HT2160763	EDMI	0.2s	28/02/2017	28/02/2020
3	1069	Old Meter	04725673	ELSTER	0.5	25/01/2012	25/01/2015
		New Meter	HT2160764	EDMI	0.2s	28/02/2017	28/02/2020
4	1070	Old Meter	04725674	ELSTER	0.5	25/01/2012	25/01/2015
		New Meter	HT2160675	EDMI	0.2s	28/02/2017	28/02/2020
5	1071	Old Meter	02373937	ELSTER	0.5	25/01/2012	25/01/2015
		New Meter	HT2160676	EDMI	0.2s	28/02/2017	28/02/2020
6	1072	Old Meter	04721860	ELSTER	0.5	25/01/2012	25/01/2015
		New Meter	HT2160677	EDMI	0.2s	28/02/2017	28/02/2020
7	1073	Old Meter	TN902837	SECURE	0.5	25/11/2011	25/11/2014
		New Meter	17067951	L&T	0.2s	10/05/2017	10/05/2020
8	1077	Old Meter	04721982	ELSTER	0.5	25/01/2012	25/01/2015
		New Meter	17067952	L&T	0.2s	10/05/2017	10/05/2020
9	1086	Old Meter	04725696	ELSTER	0.5	25/01/2012	25/01/2015
		New Meter	17067949	L&T	0.2s	10/05/2017	10/05/2020
10	1106	Old Meter	04726631	ELSTER	0.5	25/01/2012	25/01/2015
		New Meter	17068074	L&T	0.2s	13/05/2017	10/05/2020

The main meter is tested and calibrated by the TNEB at the time of commissioning of WTG. This is a sealed meter and is controlled by TNEB.

Every month, reading of the main meter of each WTG HTSC connection taken by TNEB personnel in presence of O&M personnel (representative of PP).

Procedure to calculate electricity export/ import in case the monitoring period does not match with the date of joint meter report or billing cycle:-

Further, during the current monitoring period, PP has chosen to not claim the emission reduction from 01/07/2012 to 31/12/2012 and considered ER as 0<sup>6</sup>. However, to calculate the emission reduction from 01/01/2013 it is required to have the generation data from 01/01/2013 but billing period is not matching as the last date of monthly JMR do not coincide.

<sup>5</sup> As per the notification of Central Electricity Authority, dated 17th Mar 2006 ([http://powermin.nic.in/whats\\_new/pdf/Metering\\_Regulations.pdf](http://powermin.nic.in/whats_new/pdf/Metering_Regulations.pdf)), Para 18 (1) (b), all interface meters shall be tested at least once in five years. Further as per Para 17 (c) of 'General Guidelines to SSC CDM methodologies' ([http://cdm.unfccc.int/methodologies/SSCmethodologies/approved/history/guid\\_ssc\\_meth/guid\\_ssc\\_v17.pdf](http://cdm.unfccc.int/methodologies/SSCmethodologies/approved/history/guid_ssc_meth/guid_ssc_v17.pdf)), 'Measuring equipment should be certified to national or IEC standards and calibrated according to the national standards and reference points or IEC standards and recalibrated at appropriate intervals according to manufacturer specifications, but at least once in three years'. Based on the above guidelines PP has selected calibration frequency once in a three year.

<sup>6</sup> Refer footnote 1 for detail.



Therefore, to calculate the generation data in line with the monitoring period during the last month as well, PP has applied simple calculation on pro-rata<sup>7</sup> basis to calculate the generation till the last date of monitoring period (31/08/2018).

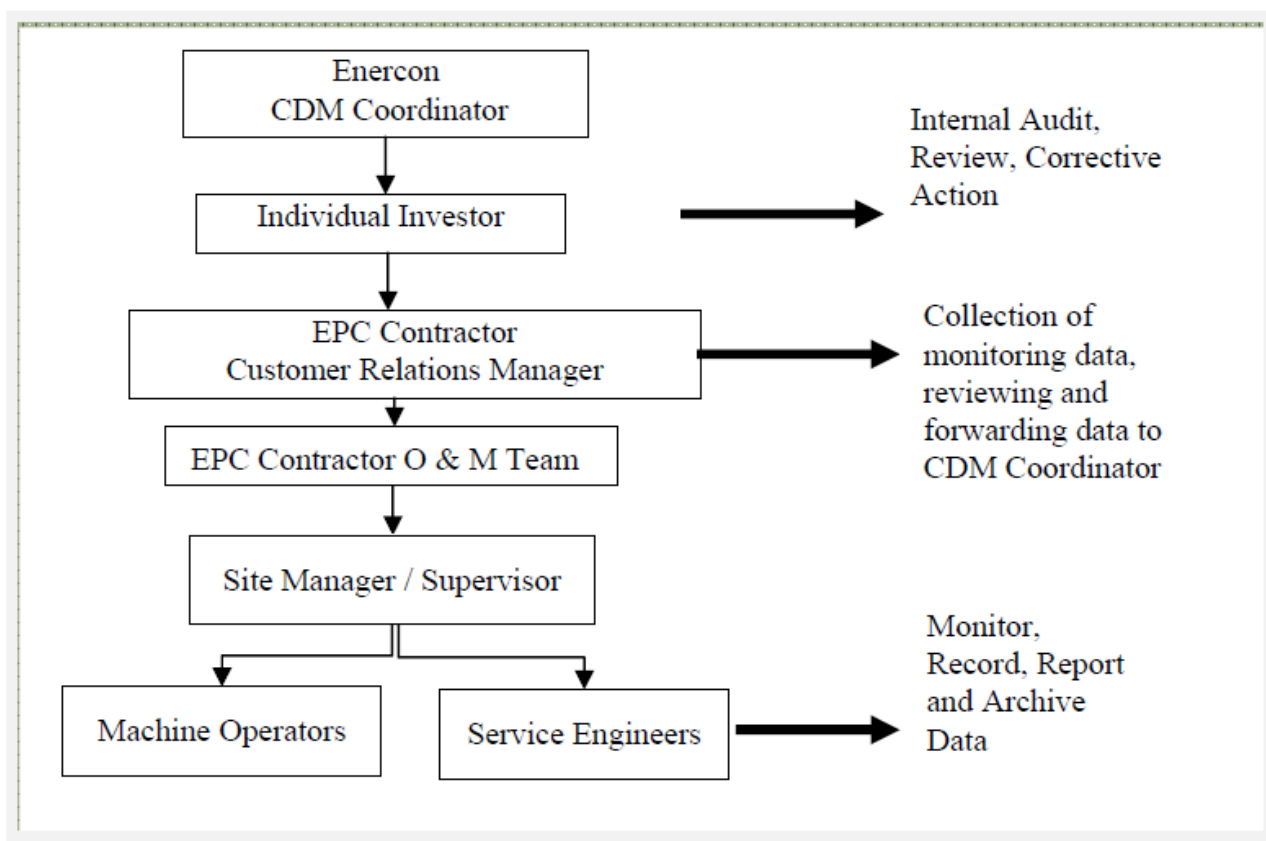
PP has followed following generic calculation procedure based on pro-rata approach to calculate generation data for N number of days in the X month:-

Electricity export/Import for N no. of days in the X month =

$$\frac{\text{Electricity export/Import for the X month as per Joint Meter Reading (or billing cycle)}}{\text{Total No. of days in the billing cycle or as per JMR of X month}} * N$$

Generation pertaining to the balance days (total no of days in billing cycle of Sep 2018–N) will be taken under next verification so that the total generation as per JMR/billing cycle is covered and there is no double counting or extrapolating of generation data.

The operational and management structure implemented by Enercon is provided below:



<sup>7</sup> Though the above procedure of pro-rata is not mentioned in registered PDD; the procedure applied by PP doesn't lead to overestimate or underestimate of CERs, since the remaining CERs will be covered under next verification.



**SECTION D. Data and parameters****D.1. Data and parameters fixed ex ante**

<b>Data/Parameter</b>	<b>EF<sub>OM,y</sub></b>
Unit	tCO <sub>2</sub> /MWh
Description	The Operating Margin emission factor of southern grid
Source of data	<p>“CO2 Baseline Database for Indian Power Sector” version 5.0, published by the Central Electricity Authority, Ministry of Power, Government of India.</p> <p>The “CO2 Baseline Database for Indian Power Sector” is available at <a href="http://www.cea.nic.in">www.cea.nic.in</a></p>
Value(s) applied	0.9876
Choice of data or measurement methods and procedures	The value is taken from the database developed by Central Electricity Authority (CO2 Baseline Database for the Indian power sector, Version 5.0). The database is Government of India’s official publication based on the ‘Tool to calculate the emission factor for an electricity system Version 02.2.1’
Purpose of data/parameter	Calculation of baseline emission
Additional comments	-

<b>Data/Parameter</b>	<b>EF<sub>BM,y</sub></b>
Unit	tCO <sub>2</sub> /MWh
Description	The Build Margin emission factor of southern grid
Source of data	This is the value of Build margin emission factor of recent year. The values used are the latest available at the time of PDD submission. (CO2 Baseline Database for the Indian power sector, Version 5.0)
Value(s) applied	0.8179
Choice of data or measurement methods and procedures	The value is taken from the database developed by Central Electricity Authority (CO2 baseline database for the Indian power sector, Version 5.0). The database is Government of India’s official publication based on the ‘Tool to calculate the emission factor for an electricity system’.
Purpose of data/parameter	Calculation of baseline emission
Additional comments	-

<b>Data/Parameter</b>	<b>EF<sub>CM,y</sub></b>
Unit	tCO <sub>2</sub> /MWh
Description	Combined Margin CO2 emission factor for southern grid
Source of data	Estimated figure based on 75% of OM and 25% of BM values calculated using data obtained from CO2 Baseline Database for the Indian Power Sector Version 05
Value(s) applied	0.9452
Choice of data or measurement methods and procedures	CEA has estimated the simple operating margin and build margin emission factor for the NEWNE/Southern regional grid
Purpose of data/parameter	Calculation of baseline emission
Additional comments	The value is calculated on ex-ante basis and it will remain same throughout the crediting period.

**D.2. Data and parameters monitored**

<b>Data/Parameter</b>	<b>EG<sub>Export,y</sub></b>
Unit	MWh
Description	Electricity exported to the grid by the project activity in year y.
Measured/calculated/default	Measured
Source of data	Single billing electronic meter with individual WEC and owned by TNEB
Value(s) of monitored parameter	108,729
Monitoring equipment	Please refer section 'C' (Description of monitoring system) for the details of meter type, accuracy class, serial number, calibration frequency, date of last calibration and validity under the heading 'Calibrations Details of Meters
Measuring/reading/recording frequency	Frequency of recording data: Metering equipment's measures the electricity export on continuous basis and recorded by state utility on monthly basis.  Refer section C for an illustration of the provisions for measurement methods.
Calculation method (if applicable)	-
QA/QC procedures	QA/QC procedures will be as implemented by state utility pursuant to the provisions of the power purchase agreement. Refer Annex – 1 for an illustration of the provisions for QA/QC procedures.
Purpose of data/parameter	Calculation of baseline emission
Additional comments	The data will be archived electronically for two years after the crediting period or of the last issuance of CERs of this project activity, whichever later.

<b>Data/Parameter</b>	<b>EG<sub>Import,y</sub></b>
Unit	MWh
Description	Electricity Imported from the grid by the project activity in year y.
Measured/calculated/default	Measured
Source of data	Single billing electronic meter with individual WEC and owned by TNEB
Value(s) of monitored parameter	331
Monitoring equipment	Please refer section 'C' (Description of monitoring system) for the details of meter type, accuracy class, serial number, calibration frequency, date of last calibration and validity under the heading 'Calibrations Details of Meters
Measuring/reading/recording frequency	Frequency of recording data: Metering equipment's measures the electricity export on continuous basis and recorded by state utility on monthly basis.  Refer section C for an illustration of the provisions for measurement methods.
Calculation method (if applicable)	-
QA/QC procedures	QA/QC procedures will be as implemented by state utility pursuant to the provisions of the power purchase agreement. Refer Annex – 1 for an illustration of the provisions for QA/QC procedures.
Purpose of data/parameter	Calculation of baseline emission
Additional comments	The data will be archived electronically for two years after the crediting period or of the last issuance of CERs of this project activity, whichever later.

<b>Data/Parameter</b>	<b><math>EG_{BL,y} (EG_{Export,y} - EG_{Import,y})</math></b>
Unit	MWh
Description	Net electricity supplied to grid by the project activity
Measured/calculated/default	Calculated
Source of data	Calculated from $EG_{Export,y}$ and $EG_{Import,y}$ ( $EG_{Export,y} - EG_{Import,y}$ )
Value(s) of monitored parameter	108,397
Monitoring equipment	Please refer section 'C' (Description of monitoring system) for the details of meter type, accuracy class, serial number, calibration frequency, date of last calibration and validity under the heading 'Calibrations Details of Meters
Measuring/reading/recording frequency	Frequency of recording data: Net electricity supplied to grid (export – import) is measured on continuous basis and data is recorded by state utility on monthly basis.  Refer section C for an illustration of the provisions for measurement methods.
Calculation method (if applicable)	<b><math>EG_{BL,y} = EG_{Export,y} - EG_{Import,y}</math></b>
QA/QC procedures	QA/QC procedures will be as implemented by state utility pursuant to the provisions of the power purchase agreement. Refer Annex – 1 for an illustration of the provisions for QA/QC procedures.
Purpose of data/parameter	To calculate emission reduction achieved by project activity
Additional comments	The data will be archived Paper/electronically for two years after the crediting period or of the last issuance of CERs of this project activity, whichever later.

### 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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The emission reduction  $ER_y$  due to project activity during a given year  $y$  is calculated as the difference between baseline emissions ( $BE_y$ ), project emissions ( $PE_y$ ) and emissions due to leakage ( $LE_y$ ) as per the formula given below:

$$ER_y = BE_y - PE_y - LE_y$$

**Baseline Emissions:**

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

$CO_2$  emission factor of the grid in year  $y = 0.9452 \text{ tCO}_2/\text{MWh}$  (Fixed Ex-ante)

Baseline Emissions in year  $y$

$$\begin{aligned} BE_y &= 108,397 \text{ MWh} \times 0.9452 \text{ tCO}_{2e}/\text{MWh} \\ &= 102,457 \text{ tCO}_{2e} \end{aligned}$$

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

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Since the project activity is a renewable energy project that generates electricity using wind power and hence does not result in project emissions.

$$PE_y = 0 \text{ tCO}_2/y$$

**E.3. Calculation of leakage emissions**

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No leakage is considered from the project activity as per approved methodology AMS I.D.

$$LE_y = 0 \text{ t CO}_2/y$$

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

	Baseline GHG emissions or baseline net GHG removals (t CO <sub>2e</sub> )	Project GHG emissions or actual net GHG removals (t CO <sub>2e</sub> )	Leakage GHG emissions (t CO <sub>2e</sub> )	GHG emission reductions or net anthropogenic GHG removals (t CO <sub>2e</sub> )		
				Before 01/01/2013	From 01/01/2013	Total amount
<b>Total</b>	102,457	0	0	0	102,457	102,457

**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 <sub>2e</sub> )	Amount estimated ex ante (t CO <sub>2e</sub> )
102,457	122,656

**E.6. Remarks on increase in achieved emission reductions**

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There is no increase in the emission reductions during the current monitoring period relative to the estimation in the registered CDM-PDD. There is only around 16.46% lesser emission reduction relative to estimation in the registered CDM- PDD for the equivalent duration of the monitoring period. This has happened due to low wind availability leading to low PLF during the current monitoring period.

## Annex - 1

**MONITORING INFORMATION**

The general conditions set out for metering, recording, meter readings, meter inspections, Test & Checking and communication are as per the agreement with state electricity board.

**Metering:** Net electricity supplied to grid will be measured through meter readings of the two-way export meter installed by TNEB. The installed meters measure the electricity export and electricity import for each WEC or group of WECs of the project which are designated by unique identification no. i.e. HT SC No. Project activity has the dedicated metering system and there are no other WECs connected to the joint meters of the project activity.

**Metering System:** A metering equipment is provided besides each WEC's, although other project proponents are also connected to the substation but individual metering of WEC's help in projecting accurate values of electricity exported. Since each WEC has unique billing meter which is installed and owned by TNEB, hence there is no need of apportioning.

**Metering Equipment:** Metering equipment is electronic trivector meter of accuracy class 0.5%/or 0.2% required for the project. Dedicated core of both CT's and PT's of required accuracy is made available by the EIL to TNEB.

**Meter Readings:** The monthly meter reading is taken jointly by the parties (EIL personals and personals of TNEB) for the last month. At the conclusion of each meter reading an appointed representative of TNEB and Enercon sign a document indicating the number of Kilowatt-hours (kWH) indicated by the meter.

**Inspection of Energy Meters:** The two-way export meter and all associated instruments, transformers installed at the project are of 0.5/0.2s accuracy classes. The meter is jointly inspected and sealed on behalf of the parties and is not to be interfered with by either party except in the presence of the other party or its accredited representatives.

**Meter Test Checking:** The meter is tested for accuracy with reference to a portable standard meter. The portable standard meter is also owned by TNEB. The meter is deemed to be working satisfactorily if the errors are within specifications for meters of accuracy classes. The consumption registered by the meter alone holds good for the purpose of metering electricity supplied to the grid as long as the error in the meter is within the permissible limits.

If during the meter test checking, the meter is found to be beyond permissible limits of error, the meter shall be immediately calibrated and the correction applied to the reading registered by the meter to arrive the correct reading of energy supplied for metering electricity supplied to the grid for the period from the last month's meter reading up to the current test. Meter reading for the period thereafter till the next monthly reading shall be as per the calibrated meter.

**Calibration of instruments:**

The meters installed at the wind farm are as per TNEB guidelines and accuracy level. The meters are checked for accuracy on a regular basis. TNEB meter testing is done by a separate division of electricity board, which takes care of meter testing in the event of any abnormality observed.

**Emergency Preparedness Plan:**

In case of the failures such as burning of the meter and the erratic display of the metered parameters and when the error found in testing the meters is beyond the permissible limit of error, the meter shall be calibrated immediately and the correction will be applied to the reading registered by the main meter to arrive the correct reading of energy supplied to the grid for the period up to last test.

The daily records for parameters such as power generation, frequency and voltage of the individual machines are noted by the SCADA system. These records are maintained by Enercon India Limited (the O&M contractor) and the PP.

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### Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
06.0	7 June 2017	Revision to: <ul style="list-style-type: none"> <li>• Ensure consistency with version 01.0 of the "CDM project standard for project activities" (CDM-EB93-A04-STAN);</li> <li>• Make editorial improvements.</li> </ul>
05.1	4 May 2015	Editorial revision to correct version numbering.
05.0	1 April 2015	Revisions to: <ul style="list-style-type: none"> <li>• Include provisions related to delayed submission of a monitoring plan;</li> <li>• Provisions related to the Host Party;</li> <li>• Remove reference to programme of activities;</li> <li>• Overall editorial improvement.</li> </ul>
04.0	25 June 2014	Revisions to: <ul style="list-style-type: none"> <li>• Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0));</li> <li>• Include provisions related to standardized baselines;</li> <li>• Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1;</li> <li>• Change the reference number from <i>F-CDM-MR</i> to <i>CDM-MR-FORM</i>;</li> <li>• Editorial improvement.</li> </ul>
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		