



**Monitoring report form  
(Version 05.1)**

*Complete this form in accordance with the Attachment "Instructions for filling out the monitoring report form" at the end of this form.*

**MONITORING REPORT**

<b>Title of the project activity</b>	Grid Connected Wind Power Project in Tamil Nadu	
<b>UNFCCC reference number of the project activity</b>	7415	
<b>Version number of the monitoring report</b>	01	
<b>Completion date of the monitoring report</b>	17/06/2015	
<b>Monitoring period number and duration of this monitoring period</b>	Monitoring period No. : 01 Monitoring period Duration: 04/10/2012 to 10/05/2015	
<b>Project participant(s)</b>	CLP Wind Farms (India) Private Limited	
<b>Host Party</b>	India	
<b>Sectoral scope(s)</b>	Sectoral Scope 1: Energy Industries (renewable - /non renewable sources)	
<b>Selected methodology(ies)</b>	Methodology: - ACM0002/Version 12.3.0, Sectoral Scope: 01, EB 66, "Grid-connected electricity generation from renewable sources"	
<b>Selected standardized baseline(s)</b>	Not Applicable	
<b>Estimated amount of GHG emission reductions or net GHG removals by sinks for this monitoring period in the registered PDD</b>	190,493 tCO <sub>2</sub> e	
<b>Total amount of GHG emission reductions or net GHG removals by sinks achieved in this monitoring period</b>	GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012	GHG emission reductions or net GHG removals by sinks reported from 1 January 2013 onwards
	5,182	185,311 tCO <sub>2</sub> e

## SECTION A. Description of project activity

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

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The project has been implemented by CLP Wind Farms (India) Private Limited (“CLP”) in the state of Tamil Nadu. The Wind Turbine Generators (“WEG”) have been supplied by Vestas Wind Technology India Private Limited (“Vestas”). As per the Supply and Services agreement signed between CLP and Vestas, later is responsible for technology and equipment supply, as well as the operation and maintenance of the WEGs.

#### Purpose of the project activity

The Project uses wind energy to generate electricity using 1.65 MW Wind Turbine Generators (WEGs) in the Tamil Nadu state in India. Total 30 numbers 1.65 MW of Vestas make WEGs are installed as part of this Project by CLP Wind Farms (India) Private Limited (CLP). The power generated from this project activity will be supplied to the state electricity grid which is a part of Southern regional grid of India. The Project is fully commissioned and is supplying electricity to Southern Regional Grid.

#### Brief description of the installed technology and equipments

The project activity involves 30 WTGs of 1.65 MW capacity each of Vestas make. The WTGs are supplied by Vestas, which is considered to be one of the leading manufacturers of site-specific WTGs. The technical specifications of these 1.65 MW WTG are provided in the table below.

Technical Description	Specification
Rotor Diameter	82 m
Hub Height	78 m
Power regulation	Active-Stall®
Air Brake	Full blade pitch by three separate hydraulic pitch cylinders.
Nominal Revolutions	14.4 rpm
Rated voltage	690V
<b>Generator</b>	
Type of generator	Asynchronous water cooled
Rated power output	1650 kW
<b>Rotor</b>	
No of blades	3
Swept area	5,281 m <sup>2</sup>
<b>Control</b>	
Type	Microprocessor-based monitoring of all turbine functions with the option of remote monitoring. Output regulation and optimization via Active-Stall
<b>Operational Data</b>	
Cut- in wind speed	3.5 m/s
Nominal wind speed	13 m/s
Cut-out wind speed (10 minutes)	20 m/s
<b>Gearbox</b>	
Type	Planetary/helical stages

These WTGs generate power at 690 V which is then stepped up to 33 kV through 3 phase transformers located near the WTG. The metering point is located near each of the 30 WTGs of the project activity. A TNEB meter is located near each WTG where the Joint Meter Reading is taken. The electricity generated by the project activity is supplied to the SR Grid through Kamachipuram 110kV/33-22kV Substation.

#### Relevant dates for the project activity

The Commissioning and other relevant dates for each WEG are provided in table below:

Sr. No.	Loc No.	HTSC No.	Start date of the project activity	Registration of project activity under CDM	Date of Commissioning
1	TPK 746	WEG T 53	31/08/2009	04/10/2012	24-Mar-10
2	TPK 569	WEG T 54			24-Mar-10
3	TPK 664	WEG T 61			24-Mar-10
4	TPK 397	WEG T 55			24-Mar-10
5	TPK 642	WEG T 60			24-Mar-10
6	TPK 369	WEG T 56			24-Mar-10
7	TJP 120	WEG T 51			24-Mar-10
8	TPK 101	WEG T 58			24-Mar-10
9	TPK 336	WEG T 57			24-Mar-10
10	TJP 258	WEG T 63			24-Mar-10
11	TPK 757	WEG T 52			24-Mar-10
12	TPK 772	WEG T 62			24-Mar-10
13	TPK 139	WEG T 59			24-Mar-10
14	TGN 147	WEG T 85			18-May-10
15	TGN 241	WEG T 84			18-May-10
16	TPK 58	WEG T 127			29-Jul-10
17	TJP 247	WEG T 135			29-Jul-10
18	TJP 391	WEG T 133			29-Jul-10
19	TPK 520	WEG T 124			29-Jul-10
20	TPK 221	WEG T 110			02-Jul-10
21	TPK 130	WEG T 129			29-Jul-10
22	TPK 603	WEG T 126			29-Jul-10
23	TSK 447	WEG T 131			29-Jul-10
24	TPK 108	WEG T 128			29-Jul-10
25	TPK 529	WEG T 125			29-Jul-10
26	TJP 78	WEG T 123			29-Jul-10
27	TJP 198	WEG T 136			29-Jul-10
28	TJP 324	WEG T 134			29-Jul-10
29	TSK 470	WEG T 132			29-Jul-10
30	TPK 228	WEG T 130			29-Jul-10

#### Total emission reductions achieved in this monitoring period

During the reported monitoring period 04/10/2012 to 10/05/2015 (First and last date included) the project activity has supplied 201,646 MWh of electricity, and thus contributing to the GHG reductions of 190,493 tCO<sub>2</sub>.

#### A.2. Location of project activity

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The Project is spread across Jangalpatti, Poomalaikundu, Govindanagram & Seepalakottai villages in Theni & Uttamaplayamtaluka Taluk of Theni district of Tamil Nadu state in India. The nearest airport and railway station are in Madurai city which is located at a distance of approximately 75 km from the project activity site. The coordinates of individual WEGs of this site are as below:

Sr. No.	Loc No.	HTSC No.	Village	Taluk	Latitude	Longitude
1	TPK 746	WEG T 53	Poomalaikund	Theni	N77°27'29.01"	E9°53'48.72"
2	TPK 569	WEG T 54	Poomalaikund	Theni	N77°27'22.27"	E9°54'00.71"
3	TPK 664	WEG T 61	Poomalaikund	Theni	N77°26'42.04"	E9°52'39.96"
4	TPK 397	WEG T 55	Poomalaikund	Theni	N77°26'57.69"	E9°55'14.05"
5	TPK 642	WEG T 60	Poomalaikund	Theni	N77°27'10.13"	E9°53'28.95"
6	TPK 369	WEG T 56	Poomalaikund	Theni	N77°26'40.99"	E9°54'43.89"
7	TJP 120	WEG T 51	Jangalpatti	Theni	N77°28'15.04"	E9°54'02.40"
8	TPK 101	WEG T 58	Poomalaikund	Theni	N77°25'59.63"	E9°54'15.04"
9	TPK 336	WEG T 57	Poomalaikund	Theni	N77°26'35.01"	E9°54'16.47"
10	TJP 258	WEG T 63	Jangalpatti	Theni	N77°28'35.18"	E9°53'34.44"
11	TPK 757	WEG T 52	Poomalaikund	Theni	N77°27'48.47"	E9°53'54.27"
12	TPK 772	WEG T 62	Poomalaikund	Theni	N77°28'04.62"	E9°53'32.52"
13	TPK 139	WEG T 59	Poomalaikund	Theni	N77°25'22.51"	E9°53'28.33"
14	TGN 147	WEG T 85	Govindhanag	Theni	N77°29'44.58"	E9°55'20.08"
15	TGN 241	WEG T 84	Govindhanag	Theni	N77°29'23.42"	E9°54'41.52"
16	TPK 58	WEG T 127	Poomalaikund	Theni	N77°26'16.84"	E9°54'52.23"
17	TJP 247	WEG T 135	Jangalpatti	Theni	N77°28'54.39"	E9°53'19.14"
18	TJP 391	WEG T 133	Jangalpatti	Theni	N77°28'35.14"	E9°52'32.08"
19	TPK 520	WEG T 124	Poomalaikund	Theni	N77°27'59.91"	E9°54'45.33"
20	TPK 221	WEG T 110	Poomalaikund	Theni	N77°26'10.50"	E9°52'46.15"
21	TPK 130	WEG T 129	Poomalaikund	Theni	N77°25'37.12"	E9°53'52.07"
22	TPK 603	WEG T 126	Poomalaikund	Theni	N77°27'00.05"	E9°54'29.73"
23	TSK 447	WEG T 131	Seepalakottai	Uttamaplayam	N77°27'22.31"	E9°52'36.71"
24	TPK 108	WEG T 128	Poomalaikund	Theni	N77°25'34.54"	E9°54'07.38"
25	TPK 529	WEG T 125	Poomalaikund	Theni	N77°27'31.72"	E9°54'30.80"
26	TJP 78	WEG T 123	Jangalpatti	Theni	N77°28'35.82"	E9°54'08.24"
27	TJP 198	WEG T 136	Jangalpatti	Theni	N77°29'16.57"	E9°53'23.69"
28	TJP 324	WEG T 134	Jangalpatti	Theni	N77°28'51.89"	E9°52'56.42"
29	TSK 470	WEG T 132	Seepalakottai	Theni	N77°28'10.93"	E9°52'32.26"
30	TPK 228	WEG T 130	Poomalaikund	Theni	N77°26'27.69"	E9°52'59.62"

### A.3. Parties and project participant(s)

Party involved ((host) indicates a host Party)	Private and/or public entity(ies) project participants (as applicable)	Indicate whether the Party involved wishes to be considered as project participant (yes/no)
Government of India (host)	M/s CLP Wind Farms (India) Private Limited (Private entity)	No

### A.4. Reference of applied methodology and standardized baseline

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The approved consolidated baseline and monitoring methodology ACM0002 (Version 12.3.0, EB66)<sup>1</sup>, has been used to determine the baseline emissions and emission reduction due to the project activity. The title of this baseline methodology is “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”.

The other UNFCCC documents referred are as below:

1. Tool for the demonstration and assessment of additionality (Version 06.0.0, EB 65)
2. Tool to calculate the emission factor for an electricity system (Version 02.2.1, EB 63)
3. Guidance on assessment of investment analysis (05, EB 62)

Guidelines on demonstration of and assessment of prior consideration of the CDM (Version 04, EB 62)

**A.5. Crediting period of project activity**

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Type of crediting period	Renewable
Crediting period from	04/10/2012 - 03/10/2019
Length of the Crediting Period	7 Years
Monitoring period from	04/10/2012 to 10/05/2015
Length of the Monitoring Period	949 Days

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

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Organization name	CLP Wind Farms (India) Private Limited
Contact person	Mr. Dipjay Sanchania
Title	Head – CDM
Address	15th Floor, Oberoi Commerz, Off. Western Express Highway, Goregaon (E), Mumbai 400 063 India
Telephone	+ 91 22 6758 8888
Email	<a href="mailto:carbon@clpindia.in">carbon@clpindia.in</a>

**SECTION B. Implementation of project activity**

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

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The total installed capacity of the project is 49.5 MW, which comprises in total 30 WEGs at Tamil Nadu. The technology used for the project activity is of Vestas Wind Technology India Private Limited. All the WTGs in the project activity have been commissioned. The commissioning dates of all the WTGs are mentioned under section A.1.

All 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.

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

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<sup>1</sup> <http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L>

**B.2. Post-registration changes****B.2.1. Temporary deviations from registered monitoring plan, applied methodology or applied standardized baseline**

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There is no request for deviation applied during this monitoring period.

**B.2.2. Corrections**

&gt;&gt;

There have not been any corrections to project information or parameters fixed at validation during the current monitoring period.

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

&gt;&gt;

Not applicable

**B.2.4. Inclusion of a monitoring plan to the registered PDD that was not included at registration**

&gt;&gt;

Not Applicable

**B.2.5. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline**

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

**B.2.6. Changes to project design of registered project activity**

&gt;&gt;

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

**B.2.7. Types of changes specific to afforestation or reforestation project activity**

&gt;&gt;

Not applicable

**SECTION C. Description of monitoring system**

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The approved large scale methodology ACM0002 (Version 12.3.0), stipulates the monitoring of the net electricity generation supplied by the project plant/unit to the grid.

Project proponent has signed an "Operation and Maintenance" contract with Vestas for operation & maintenance of WTGs. The performance of the WTGs, safety in operation and scheduled /breakdown maintenances are organized and monitored by the Vestas and their activities are supervised by CLP through their site staff. Vestas will also provide daily generation data to CLP through website.

A power purchase agreement has been signed with TNEB. The project proponent has installed two identical energy meters – main meter and check meters of 0.5s accuracy class at each WTG's 33kV outgoing feeder (metering point). These main and check meters are duly approved, tested and sealed by TNEB. These comply with the requirements of the Electricity Rules. The meter readings at the Metering Point are undertaken every month jointly by the representatives of the State Grid/ TNEB and Vestas representative for the previous month. The meter readings are jointly certified by representatives of the State Grid/ TNEB and Vestas.

The TNEB carries out the calibration, periodical testing, sealing and maintenance of meters in the presence of Vestas representative. The frequency of meter testing is once in a year. All meters are tested at the Metering Point.

**Metering procedure**

The metering is carried out at TNEB meter located near each WTG (30 TNEB main meters for 30 WTG of the project activity). This is the metering point wherein the Joint Meter Reading (JMR) is carried out every month in presence of the representatives of the project proponent & the state electricity utility (TNEB). This JMR is used for calculation of the amount of electricity supplied to the grid against which the utility makes the payment to the project proponent. The JMR document contains "export", "import" and "net export" of the electricity to/ from the southern grid. In case of failure of main meter reading, check meter will be used for the purpose of JMR and billing.

The general conditions set out for metering, recording, meter readings, meter inspections, Test & Checking and communication are as per the PPA (power purchase agreement) with TNEB.

**Metering:** The electricity supplied to the state grid is metered through the two way export meter installed by TNEB at the high voltage side of the step up transformer installed at the project Site.

**Metering Equipment:** The metering equipment is electronic trivector meter of accuracy class 0.5 required for the project. The meters are owned and operated by TNEB. The metering equipment is maintained in accordance with the electricity standards prevalent in Tamil Nadu.

**Meter Readings:** The monthly meter reading will be taken jointly by the TNEB and Vestas for the last month. At the conclusion of each meter reading an appointed representative of the TNEB and Vestas sign a document indicating the number of kWh indicated by the main meter. The project participant has also installed the check meter. The check meter reading shall be considered when main meter is found to be defective or stopped.

Apart from the main meter and the check meter, every WEG is equipped with an inbuilt meter which continuously records the electricity generated by each WEG.

**Inspection of Energy Meters:** The two-way export meter and all associated instruments, transformers at the project site are of 0.5 accuracy class. 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 representative.

**Meter Test Checking:** The meter is tested for accuracy with reference to a portable standard meter owned by TNEB. The meter is deemed to be working satisfactorily if the errors are within specifications for meters of 0.5 accuracy class. The consumption registered by the main 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.

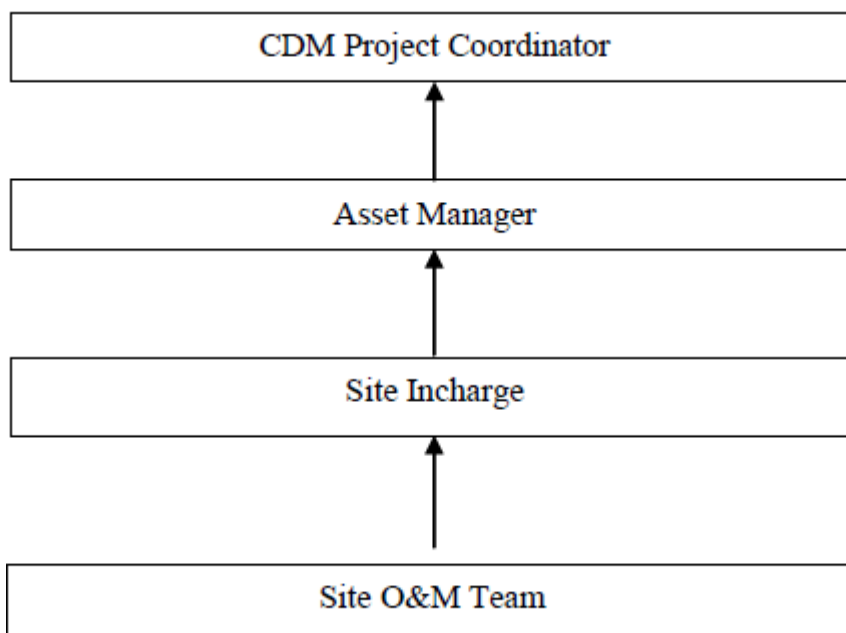
Readings of both Main and Check meters shall be taken every month and shall be compared with each other. Following QA-QC scenarios are planned to demonstrate accuracy of the metering equipment,

1. If the difference between the readings of both meters is lower than total permissible error of both the meters, reading of Main meter is considered for emission reduction calculation

2. If the difference between the readings of both meters is higher than total permissible error of both the meters, both the meters shall be tested.
  - a. During such test, if Main meter is found working within the permissible limits then, reading of Main meter will be considered for emission reduction calculation and Check meter will be calibrated
  - b. During such test, if Check meter is found working within the permissible limits then, reading of Check meter will be considered for emission reduction calculation and Main meter will be calibrated
  - c. During such test, if error of both the meters are found to be more than their individual permissible error limits, then error of Main meter will be applied in a conservative manner to its reading in emission reduction calculation. Such correction will be applied to entire generation record starting from the last calibration due date to the date of testing. Both the Main and Check meters shall be calibrated.

**Project management structure**

The operation and maintenance team consists of representatives of technology supplier, Vestas, who will record the readings and prepare daily generation reports of all the WTGs. The primary recording of the electricity fed to the electricity grid will be carried out jointly at the TNEB meter located near each WTG. The organizational and management structure for the monitoring of the project activity is as follows:



The project team is delegated with the responsibility to monitor and document the electricity generated and also safe keeping of the recorded data. The project team is also responsible for calculation of emission reduction in the most transparent and relevant manner. All the monitoring data is stored/will be recorded and kept under safe custody. The organizational structure for the monitoring plan with responsibilities is provided below:

<b>Designation</b>	<b>Responsibilities</b>
CDM Project Coordinator	<ul style="list-style-type: none"> <li>• Overall CDM project management</li> <li>• Ensures adherence to monitoring plan</li> <li>• Estimation of Emission Reductions</li> <li>• Holds complete control over monitoring aspects pertaining to the project</li> </ul>
Asset Manager	<ul style="list-style-type: none"> <li>• Verification of Data (Consistency &amp; Completeness)</li> <li>• Storage of Data (Archiving)</li> <li>• Review / Corrective and preventive Actions</li> <li>• QA/QC procedures</li> </ul>

Site Incharge	<ul style="list-style-type: none"> <li>• Verification of Data (Consistency &amp; Completeness)</li> <li>• Storage of Data (Archiving)</li> <li>• Operation &amp; Maintenance</li> </ul>
Site O&M team	<ul style="list-style-type: none"> <li>• Recording of monitored data</li> <li>• Storage of Data (Archiving)</li> <li>• Operation &amp; Maintenance</li> </ul>

## SECTION D. Data and parameters

### D.1. Data and parameters fixed ex ante or at renewal of crediting period

<b>Data/parameter:</b>	EF <sub>grid,OM,y</sub>																				
Unit	tCO <sub>2</sub> e/MWh																				
Description	Weighted average (net electricity generation) Operating Margin (OM) Emission Factor of Southern Regional Electricity Grid																				
Source of data	The CO <sub>2</sub> Baseline Database for the Indian Power Sector - Ministry of Power: Central Electricity Authority (CEA) Version 5.																				
Value(s) applied)	<table border="1"> <thead> <tr> <th>Year</th> <th>Simple operating margin of Southern regional grid (tCO<sub>2</sub>e/MWh)</th> <th>Net electricity generation in the year (MWh)</th> </tr> </thead> <tbody> <tr> <td>2006-07</td> <td>0.9991</td> <td>109116377.5</td> </tr> <tr> <td>2007-08</td> <td>0.9906</td> <td>114701739.27</td> </tr> <tr> <td>2008-09</td> <td>0.9729</td> <td>121471250.544</td> </tr> <tr> <td colspan="2">Total Generation</td> <td>345289367.314</td> </tr> <tr> <td colspan="2">Generation weighted average Operating Margin emission factor in the last three years</td> <td>0.9871</td> </tr> </tbody> </table>			Year	Simple operating margin of Southern regional grid (tCO <sub>2</sub> e/MWh)	Net electricity generation in the year (MWh)	2006-07	0.9991	109116377.5	2007-08	0.9906	114701739.27	2008-09	0.9729	121471250.544	Total Generation		345289367.314	Generation weighted average Operating Margin emission factor in the last three years		0.9871
Year	Simple operating margin of Southern regional grid (tCO <sub>2</sub> e/MWh)	Net electricity generation in the year (MWh)																			
2006-07	0.9991	109116377.5																			
2007-08	0.9906	114701739.27																			
2008-09	0.9729	121471250.544																			
Total Generation		345289367.314																			
Generation weighted average Operating Margin emission factor in the last three years		0.9871																			
Choice of data or measurement methods and procedures	Operating Margin Emission Factor has been calculated by the Central Electricity Authority using the simple OM approach in accordance with "Tool to calculate the emission factor for an electricity system"																				
Purpose of data	Baseline Emission calculation																				
Additional comments	Operating margin emission factor is fixed ex-ante throughout the crediting period.																				

<b>Data/parameter:</b>	EF <sub>grid,BM,y</sub>		
Unit	tCO <sub>2</sub> e/MWh		
Description	Build Margin (BM) Emission Factor of Southern Regional Electricity Grid		
Source of data	The CO <sub>2</sub> Baseline Database for the Indian Power Sector - Ministry of Power: Central Electricity Authority (CEA) Version 5.		
Value(s) applied)	0.8179 tCO <sub>2</sub> /MWh for the year 2008-09		
Choice of data or measurement methods and procedures	The Build Margin Emission Factor has been calculated by the Central Electricity Authority using the simple OM approach in accordance with "Tool to calculate the emission factor for an electricity system"		
Purpose of data	Baseline Emission calculation		
Additional comments	Build margin emission factor is fixed ex-ante throughout the crediting period.		

<b>Data/parameter:</b>	Ratio OM:BM
Unit	
Description	Ratio of Operating margin to build margin used for calculation of combined margin for wind energy project
Source of data	The CO2 Baseline Database for the Indian Power Sector - Ministry of Power: Central Electricity Authority (CEA) Version 5.
Value(s) applied)	75:25
Choice of data or measurement methods and procedures	The Build Margin Emission Factor has been calculated by the Central Electricity Authority using the simple OM approach in accordance with "Tool to calculate the emission factor for an electricity system"
Purpose of data	Baseline Emission calculation
Additional comments	Ratio is fixed ex-ante throughout the crediting period.

<b>Data/parameter:</b>	$EF_{grid,CM,y}$
Unit	tCO <sub>2</sub> e/MWh
Description	Combined Margin (CM) Emission Factor
Source of data	The CO2 Baseline Database for the Indian Power Sector - Ministry of Power: Central Electricity Authority (CEA) Version 5.
Value(s) applied)	0.9447 tCO <sub>2</sub> /MWh for the year 2008-09
Choice of data or measurement methods and procedures	The Combined Margin Emission Factor has been calculated using the simple OM approach in accordance with "Tool to calculate the emission factor for an electricity system"
Purpose of data	Baseline Emission calculation
Additional comments	Combined margin emission factor is fixed ex-ante throughout the crediting period.

## D.2. Data and parameters monitored

<b>Data/parameter:</b>	$EG_{facility,y}$
Unit	MWH
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y
Measured/calculated/default	Measured
Source of data	The electricity supplied to the grid would be taken from the Joint Meter Reading Report / Energy Generation Statement issued by TNEB for each WTG. TNEB issues this report / statement based on the generation recorded by meters located near each WTG
Value(s) of monitored parameter	201,646
Monitoring equipment	The net electricity supplied to the grid is measured by the main meters and check meters (export and import values) installed by TNEB at the metering point near each WTG. The Total Net Electricity supplied to the grid by the project activity is the summation of Net Electricity supplied by individual 30 WTG of the project activity
Measuring/reading/recording frequency:	Monthly
Calculation method (if applicable):	Not Applicable

QA/QC procedures:	Accuracy of meters: 0.5s Frequency of calibration: Annual  The quantity of net electricity supplied will be cross-verified from the invoice raised to TNEB by the project proponent.
Purpose of data:	Calculation of baseline emissions or baseline net GHG removals by sinks
Additional comments:	The data will be archived for two years after the end of the last crediting period or till the last issuance of CERs for the project activity, whichever is later.

### D.3. Implementation of sampling plan

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Not Applicable

## SECTION E. Calculation of emission reductions or GHG removals by sinks

### E.1. Calculation of baseline emissions or baseline net GHG removals by sinks

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Baseline emissions include only CO<sub>2</sub> emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The baseline emissions for the monitoring period are calculated as follows:

$$BE_y = EG_{\text{facility},y} * EF_{\text{grid,CM},y}$$

Thus,

$$\begin{aligned} BE_y &= 201,646 * 0.9447 \text{ tCO}_2\text{e} \\ &= 190,493 \text{ tCO}_2\text{e} \end{aligned}$$

### E.2. Calculation of project emissions or actual net GHG removals by sinks

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The project activity involves harnessing of wind energy and its conversion to electricity. Hence according to ACM0002 Version 12.3.0, there will be no project emissions in the project activity.

Hence,  
 $PE_y = 0$

### E.3. Calculation of leakage

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As per ACM0002 Version 12.3.0, no leakage has been considered for the calculation of emission factor.

**E.4. Summary of calculation of emission reductions or net GHG removals by sinks**

Item	Baseline emissions or baseline net GHG removals by sinks (t CO <sub>2</sub> e)	Project emissions or actual net GHG removals by sinks (t CO <sub>2</sub> e)	Leakage (t CO <sub>2</sub> e)	GHG emission reductions or net GHG removals by sinks (t CO <sub>2</sub> e) achieved in the monitoring period		
				Up to 31/12/2012	From 01/01/2013	Total amount
<b>Total</b>	190,493	0	0	5,182	185,311	190,493

**E.5. Comparison of actual emission reductions or net GHG removals by sinks with estimates in registered PDD**

Item	Values estimated in ex ante calculation of registered PDD	Actual values achieved during this monitoring period
Emission reductions or GHG removals by sinks (t CO <sub>2</sub> e)	296,343	190,493

**E.6. Remarks on difference from estimated value in registered PDD**

&gt;&gt;

From E.5 above, we can observe that actual emission reduction for the current monitoring is lower than estimated emission reductions by 35.72%, which is due to low PLF observed during the current monitoring period.

## Appendix 1. Contact information of project participants and responsible persons/entities

<b>Project participant and/or responsible person/ entity</b>	<input checked="" type="checkbox"/> Project participant <input type="checkbox"/> Person/entity responsible for completing the CDM-MR-FORM
<b>Organization name</b>	CLP Wind Farms (India) Private Limited
<b>Street/P.O. Box</b>	Oberoi Garden City, Off. Western Express Highway, Goregaon East
<b>Building</b>	15th Floor, Oberoi Commerz, International Business Park
<b>City</b>	Mumbai
<b>State/region</b>	Maharashtra
<b>Postcode</b>	400 063
<b>Country</b>	India
<b>Telephone</b>	+91 22 67588888
<b>Fax</b>	+91 22 67588811
<b>E-mail</b>	<a href="mailto:carbon@clpindia.in">carbon@clpindia.in</a>
<b>Website</b>	<a href="http://www.clpindia.in">www.clpindia.in</a>
<b>Contact person</b>	Head – CDM
<b>Title</b>	Mr.
<b>Salutation</b>	Sanchania
<b>Last name</b>	Dipjay
<b>Middle name</b>	Renewables
<b>First name</b>	+91 22 67588811/ 8833
<b>Department</b>	+91 22 67588888
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### Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
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 (EB70, 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	28 May 2010	EB 54, Annex 34. Initial adoption.

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