

MONITORING REPORT FORM (CDM-MR) Version 01

CONTENTS

- A. General description of the project activity
 - A.1. Brief description of the project activity
 - A.2. Project participants
 - A.3. Location of the project activity
 - A.4. Technical description of the project
 - A.5. Title, reference and version of the baseline and monitoring methodology applied to the project activity
 - A.6. Registration date of the project activity
 - A.7. Crediting period of the project activity and related information
 - A.8. Name of responsible person(s)/entity(ies)
- B. Implementation of the project activity
 - B.1. Implementation status of the project activity
 - B.2. Revision of the monitoring plan
 - B.3. Request for deviation applied to this monitoring period
 - B.4. Notification or request of approval of changes
- C. Description of the monitoring system
- D. Data and parameters monitored
 - D.1. Data and parameters used to calculate baseline emissions
 - D.2. Data and parameters used to calculate project emissions
 - D.3. Data and parameters used to calculate leakage emissions
 - D.4. Other relevant data and parameters
- E. Emission reductions calculation
 - E.1. Baseline emissions calculation
 - E.2. Project emissions calculation
 - E.3. Leakage calculation
 - E.4. Emission reductions calculation
 - E.5. Comparison of actual emission reductions with estimates in the registered CDM-PDD
 - E.6. Remarks on difference from estimated value

Appendix 1: Metering arrangement for the project activity.

MONITORING REPORT
Version 2.0 and Date 08/03/2011

Title: Bundled wind power project in Chitradurga (Karnataka in India) managed by Enercon (India) Ltd.

Project Reference No: 0276

Monitoring Period – THIRD MONITORING PERIOD: FROM 1ST JULY 2007 TO 31ST DECEMBER 2009 (including first and last day)

SECTION A. General description of the project activity

A.1. Brief description of the project activity: >>

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1. Purpose of the project activity and the measures taken to reduce greenhouse gas emissions;

The project activity includes development, design, engineering, procurement, finance, construction, operation and maintenance of wind farm connected to the grid, with aggregate installed capacity of 16.8 MW, located within a wind park. The individual subprojects of the project activity are as follows:

- Enercon Wind Farms (India) Limited (EWFIL) with capacity of 8.4 MW
- CEPCO Industries Limited (CEPCO) with capacity of 8.4 MW

The generated electricity is being supplied to Karnataka Power Transmission Company Limited (“KPTCL”) under long-term power purchase agreement (PPA). The purpose of the project is to generate clean energy by displacing grid power which is majorly fossil fuel based in the host country, thereby ultimately leading to sustainable economic and environmental development.

2. Brief description of the installed technology and equipments;

The aggregate 16.8 MW project activity comprises of 28 numbers of Enercon-make E-40 wind energy converters (WEC), with each WEC having a capacity of 600kW. Enercon (India) Ltd (EIL) is the turbine supplier and is the operations and maintenance contractor. The specifications of E-40 WEC are given in section A.4 of the monitoring report.

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

The first WEC under the project activity was commissioned on 3rd August 2001 and last WEC under the project activity was commissioned on 4th June 2002. The expected operational lifetime of the project is for 20 years. The project activity was registered as CDM project on 12th May 2006. The first monitoring period was from 3rd June 2002 to 30th June 2006 and second monitoring period was from 1st July 2006 to 30th June 2007.

4. Total emission reductions achieved in this monitoring period.

The total emission reductions achieved under this monitoring period (1st July 2007 to 31st December 2009) is **1, 12,719 tCO₂**.

A.2. Project Participants

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Name of Party involved ((host) indicates a host Party)	Private and/or public entity(ies) project participants (*) (as applicable)	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
Govt. of India (Host)	Enercon India Limited (EIL)	No
Govt. of Netherlands	IFC-Netherlands Carbon Facility (INCaF)	No

A.3. Location of the project activity:

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The project activity is located in the Jogimatti Wind Zone at Chitradurga District in Karnataka, India. The existing EIL's wind farms are located between 15°10'N and 15°12'N latitude and 76°38'E and 76°42'E longitude. The nearest railway station is at Chitradurga.

A.4. Technical description of the project

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The Project Activity involves 28 numbers of Enercon made E-40, 600 kW rated Wind energy Converters (WECs) with internal electrical lines connecting the projects with local evacuation facility including local receiving station at Kakkeharavu and a 32 km long 66 kV Double Circuit line connecting the Wind Park with the local KPTCL 66 kV substation.

- Gearless Construction - Rotor & Generator Mounted on same shaft eliminating the Gearbox.
- Variable Speed function ensuring optimum efficiency at all times, having speed range of 18 to 33 RPM.
- Variable Pitch functions ensuring maximum energy capture.
- Near Unity Power Factor at all times.
- Minimum drawl (less than 1% of kWh generated) of Reactive Power from the grid.
- No voltage peaks at any time.
- Operating range of the WEC with voltage fluctuation of -20 to +20%.
- Less Wear & Tear since the system eliminates mechanical brake, which are not needed due to low speed generator which runs at maximum speed of 33 rpm and uses Air Brakes.
- Three Independent Braking System.
- Generator achieving rated output at only 33 rpm.
- Incorporates lightning protection system, which includes blades.
- Starts Generation of power at wind speed of 3 m/s.

A.5. Title, reference and version of the baseline and monitoring methodology applied to the project activity:

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The applied baseline and monitoring methodology for the project activity is 'Consolidated baseline methodology for grid-connected electricity generation from renewable sources', **ACM0002, Version 03** and 'consolidated monitoring methodology for zero-emissions grid-connected electricity generation from renewable sources', **ACM 0002, Version 03**

A.6. Registration date of the project activity:

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12th May 2006

A.7. Crediting period of the project activity and related information (start date and choice of crediting period):

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Crediting period of the project activity as per registered PDD is from 3rd June 2002 to 2nd June 2012 (Fixed).

A.8. Name of responsible person(s)/entity(ies):

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Contact Information of Enercon (India) limited is given in the table below:

Organization:	Enercon (India) Limited
Street/P.O.Box:	Kolsite House, Plot No. 31, Shah Industrial Estate, Veera Desai Road, Andheri (West)
Building:	
City:	Mumbai
State/Region:	Maharashtra
Postfix/ZIP:	400 053
Country:	India
Telephone:	+91-22-5673 0085
FAX:	+91-22-5673 0092
E-Mail:	yogesh.mehra@enerconindia.net
URL:	
Represented by:	
Title:	Managing Director
Salutation:	Mr.
Last Name:	Mehra
Middle Name:	
First Name:	Yogesh
Department:	CEO
Mobile:	
Direct FAX:	+91-22-5673 0092
Direct tel:	+91-22-5673 0085
Personal E-Mail:	yogesh.mehra@enerconindia.net

Organization:	The Netherlands represented by its Ministry of Housing, Spatial Planning and the Environment acting through the International Finance Corporation, in its capacity as a Trustee of the IFC-Netherlands Carbon Facility (INCaF).
Street/P.O.Box:	2121 Pennsylvania Ave NW
Building:	
City:	Washington
State/Region:	DC
Postfix/ZIP:	20433
Country:	USA
Telephone:	202 473 4194
FAX:	202 974 4404
E-Mail:	carbonfinance@ifc.org , mparaan@ifc.org
URL:	www.ifc.org/carbonfinance
Represented by:	
Title:	Program Manager
Salutation:	Mr.
Last Name:	Widge
Middle Name:	
First Name:	Vikram
Department:	Carbon Finance, Environmental Finance Group, Environment and

	Social Development Department
Mobile:	
Direct FAX:	202-974-4404
Direct tel:	202-473-1368
Personal E-Mail:	carbonfinance@ifc.org

SECTION B. Implementation of the project activity

B.1. Implementation status of the project activity

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1. The starting date of operation of the project activity. For project activities that consist of more than one site, the report shall clearly describe the status of implementation and starting date of operation for each site. For CDM project activities with phased implementation, the report shall indicate the progress of the proposed CDM project activity achieved in each phase.

The first WEC under the project activity was commissioned on 3rd August 2001 and last WEC under the project activity was commissioned on 4th June 2002. The project activity consists of 28 WECs (600 kWh) of Enercon make E-40. The commissioning date for all the WECs included in the project activity is given in the table below.

Customer Name	No. Of WECs Commissioned	Date of Commissioning
Enercon Wind Farms (India) Limited	7	4 th June 2002
	7	29 th September 2001
Cepco Industries Limited	9	30 th August 2001
	5	3 rd August 2001

2. The information regarding the actual operation of the project activity during this monitoring period, including information on special events, for example overhaul times, downtimes of equipment, exchange of equipment, etc.

There have not been any special events comprising of major overhauls and downtime of project activity during the said monitoring period; thus there has not been any change in the operation of project activity during the monitoring period.

3. A brief description of: (i) events or situations that occurred during the monitoring period, which may impact the applicability of the methodology, and (ii) how the issues resulting from these events or situations are being addressed.

There have not been any events or situations that occurred during the monitoring period, which may impact the applicability of the methodology.

B.2. Revision of the monitoring plan

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The revision in monitoring was applied for by the PP and was approved by UNFCCC on 26th March 2010.

B.3. Request for deviation applied to this monitoring period

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Not Applicable

B.4. Notification or request of approval of changes

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Not Applicable

SECTION C. Description of the monitoring system

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Metering:

The Delivered Energy is metered at the high voltage side of the step up transformer installed at the Project Site. There are two project owners in the project activity (1) EWFIL with the capacity of 8.4 MW and (2) CEPCO with the capacity of 8.4 MW. All the 14 WEC's of EWFIL (E-1 to E-14) are pooled together at pooling station comprising of one main and one check meter. The 14 WEC's of CEPCO have the similar arrangement.

The meter readings are taken and recorded jointly by the representatives of transmission/distribution utility and Enercon. The monthly meter readings at the pooling station are taken on the first day of each month at 12 noon.

The delivered energy is transmitted to Enercon receiving station at Kakkeharavu, and then further transmitted to KPTCL substation at Pandarahalli as per the PPA. Other customers of the wind farm are also connected in Kakkeharavu receiving station. The transmission losses are calculated till the Kakkeharavu receiving station by the representatives of KPTCL as per the PPA .

The net electricity supplied to the grid is calculated by the transmission/distribution utility by subtracting the transmission losses measured at Kakkeharavu receiving station from the meter readings recorded at the pooling stations. The monthly meter readings at Kakkeharavu receiving station is also taken on first day of each month at 12 noon. The net electricity supplied to the grid is sourced from the Joint Meter Reading (Form B) and can be cross checked from the invoice.

The metering arrangement for the project activity is given in the diagram in **Appendix 1**.

The details of meters installed at the site for measuring export and import by project activity are provided below:

Meter and Sub-Project Owner	Serial Number	Accuracy Class	Make
Main Meter-Enercon Pooling Station	01987500	0.2	L&T
Check Meter-Enercon Pooling Station	01987519	0.2	L&T
Main Meter-CEPCO Pooling Station	01987490	0.2	L&T
Check Meter- CEPCO Pooling Station	01987484	0.2	L&T

The details of meters installed at receiving station at Kakkeharavu for the purpose of measuring and allotting transmission losses are provided below:

Meter Details	Serial Number	Accuracy Class	Make
Main Meter at receiving station (Line 1)	01958995	0.2	L&T
Check Meter at receiving station (Line 1)	01959004	0.2	L&T
Main Meter at receiving station (Line 2)	03074058	0.2	L&T
Check Meter at receiving station (Line 2)	03074065	0.2	L&T

Quality Control and Quality Assurance:

The QA/QC procedures have been applied as per the revised monitoring plan the details are as follows:

The readings of main meter and check meter have been checked monthly to assess the accuracy of meters. The difference between readings of main meter and check meter have been checked so that percentage difference in these two readings does not exceed the combined accuracy range of meters. There have been no instances during the monitoring period where the difference in readings between the main meter and check meter is greater than the combined accuracy range of meters.

The main and check meters of the sub-projects (EWFIL and CEPCO) are located at the respective pooling stations. The energy generated from the wind farm is transmitted to receiving station of Enercon (33/66 kV) located at Kakkeharavu which is further connected via 66 kV lines to KPTCL substation of Pandarahalli, the KPTCL substation of Pandarahalli is not used for the purpose of metering.

The details of calibration of meters installed at the site for measuring export and import by project activity are provided below:

Meter Location	Meter Serial Number	Calibration Dates	Calibration Certificate Reference number
CEPCO pooling station/main meter	01987490	16 th August 2007 9 th May 2008 13 th August 2009 21 st September 2010	Dvg/RT/WF-05/505-09 Dvg/RT/F-WF-15/58/08-09/131-35 Calibration certificate issued by BESCOM, dated as 13 th August 2009 Calibration certificate issued by BESCOM, dated as 21 st September 2010
CEPCO pooling station/check meter	01987484	16 th August 2007 9 th May 2008 13 th August 2009 21 st September 2010	Dvg/RT/WF-05/505-09 Dvg/RT/F-WF-15/58/08-09/131-35 Calibration certificate issued by BESCOM, dated as 13 th August 2009 Calibration certificate issued by BESCOM, dated as 21 st September 2010
EWFIL pooling station/ main meter	01987500	18 th August 2007 9 th May 2008 13 th August 2009	Dvg/RT/WF-08/520-24 Dvg/RT/F-WF-15/58/08-09/131-35 Calibration certificate issued by BESCOM, dated as 13 th August 2009

		4 th May 2010	Calibration certificate issued by BESCOM, dated as 4 th May 2010
EWFIL pooling station/ check meter	01987519	18 th August 2007 9 th May 2008 13 th August 2009 4 th May 2010	Dvg/RT/WF-08/520-24 Dvg/RT/F-WF-15/58/08-09/131-35 Calibration certificate issued by BESCOM, dated as 13 th August 2009 Calibration certificate issued by BESCOM, dated as 4 th May 2010

The details of the meter calibration for the meters at receiving station at Kakkeharavu are provided below:

Meter Details	Meter Serial Number	Calibration Dates	Calibration Certificate Reference number
Main Meter at receiving station (Line 1)	01958995	18 th August 2007 9 th May 2008 8 th June 2009 25 th February 2010	DVG/RT/WF-15/560-64 Dvg/RT/F-WF-15/58/08-09/131-35 Calibration certificate issued by KPTCL, dated as 8 th June 2009 Calibration certificate issued by KPTCL, dated as 25 th February 2010
Check Meter at receiving station (Line 1)	01959004	18 th August 2007 9 th May 2008 8 th June 2009 25 th February 2010	DVG/RT/WF-15/560-64 Dvg/RT/F-WF-15/58/08-09/131-35 Calibration certificate issued by KPTCL, dated as 8 th June 2009 Calibration certificate issued by KPTCL, dated as 25 th February 2010
Main Meter at receiving station (Line 2)	03074058	18 th August 2007 9 th May 2008 8 th June 2009 25 th February 2010	DVG/RT/WF-58/565-69 Dvg/RT/F-WF-15/58/08-09/131-35 Calibration certificate issued by KPTCL, dated as 8 th June 2009 Calibration certificate

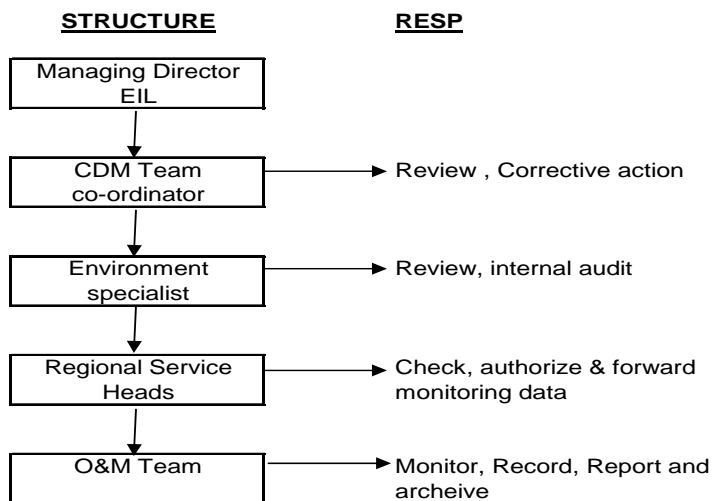
			issued by KPTCL, dated as 25 th February 2010
Check Meter at receiving station (Line 2)	03074065	18 th August 2007 9 th May 2008 8 th June 2009 25 th February 2010	DVG/RT/WF-58/565-69 Dvg/RT/F-WF-15/58/08-09/131-35 Calibration certificate issued by KPTCL, dated as 8 th June 2009 Calibration certificate issued by KPTCL, dated as 25 th February 2010

The meter calibration reports clearly indicate that the error is within the permissible limits of + or – 0.2% of accuracy class of meters for the said monitoring period.

However, it was noticed that there was delay in calibration of meters in year 2007. Whereas monitoring period starts from 1st July 2007, the calibration at CEPCO pooling station was carried out on 16th August 2007 and calibration at EWFIL pooling station was carried out on 18th August 2007. The calibration for the meters at receiving station at Kakkeharavu was conducted on 18th August 2007. Similarly, a delay was observed in year 2009. The calibration at CEPCO and EWFIL pooling stations in previous year was conducted on 9th May 2008 but calibration in year 2009 was conducted on 13th August 2009. The calibration for the meters at receiving station at Kakkeharavu was conducted on 8th June 2009.

According to Annex 60 of EB 52 (Point 4 (a)) which states to apply the maximum permissible error of the instrument to the measured values, if the results of the delayed calibration do not show any errors in the measuring equipment, As there were no errors in subsequent delayed calibration, PP has factored in maximum permissible accuracy class of meters in measured values of export, import and transmission losses in the months for July & August 2007 and, in the months of May, June, July & August 2009 to achieve maximum conservative value of emission reductions.

The project activity has followed following organization structure for the purpose of monitoring:



ORGANOGRAM OF THE CDM PROJECT MONITORING

SECTION D. Data and parameters

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D.1. Data and parameters determined at registration and not monitored during the monitoring period, including default values and factors

Data / Parameter:	$EF_{OM,v}$		
Data unit:	tCO ₂ e/MWh		
Description:	Operating Margin Emission Factor of Southern Regional Electricity Grid		
Source of data used:	Table 5.5, 6.1 CEA General Review, <i>CEA data is available at www.cea.nic.in</i>		
Value(s) :	2001 – 02	1.232715	
	2002 – 03	1.358714	
	2003 – 14	1.041711	
	Average	1.211047	
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline Emissions		
Additional comment:	None		

Data / Parameter:	$EF_{BM,v}$		
Data unit:	tCO ₂ e/MWh		
Description:	Build Margin Emission Factor of Southern Regional Electricity Grid		
Source of data used:	Table 2.4, 2.7, 3.4, 6.6 CEA General Review, <i>CEA data is available at www.cea.nic.in</i>		
Value(s) :	0.7157286		
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline Emissions		
Additional comment:	None		

Data / Parameter:	$EF_{CM,v}$		
Data unit:	tCO ₂ e/MWh		
Description:	Combined Margin Emission Factor of Southern Regional Electricity Grid		
Source of data used:	Calculated		
Value(s) :	0.9633877		
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline Emissions		
Additional comment:	None		

D.2. Data and parameters monitored

Data / Parameter:	EGy		
Data unit:	MWh (Mega-Watt hour)		
Description:	Net electricity supplied to the grid by the Project		
Measured /Calculated	Gross electricity exported to the grid by project activity is measured		

/Default:	with energy meters at pooling station. The net electricity supplied to the grid by project activity is derived by factoring in electricity imported as measured by energy meters at pooling station and allocating transmission loss up to receiving station at Kakkeharavu. Energy exported, imported and transmission losses becomes the basis of Form B.
Source of data:	Form B (Joint Meter Reading, JMR) issued by state Utility.
Value(s) of monitored parameter:	Annual electricity supplied to the grid by the Project as per the Form B 1 st July 2007 to 31 st December 2009 = 117021.3 MWh
Indicate what the data are used for (Baseline/ Project/ Leakage emission calculations)	Baseline Emissions
Monitoring equipment (type, accuracy class, serial number, calibration frequency, date of last calibration, validity)	<p>Type- Trivector Meter Accuracy Class-0.2</p> <p>Pooling Station-EWFIL</p> <p>Serial Number of Main Meter- 01987500 Serial Number of Check Meter- 01987519 Frequency of Calibration- 1 year Last date of Test- 13th August 2009 Validity of Test- 1 year</p> <p>Pooling Station- CEPCO</p> <p>Serial Number of Main Meter: 01987490 Serial Number of Check Meter: 01987484 Frequency of Calibration- 1 year Last date of Test- 13th August 2009 Validity of Test- 1 year</p> <p>Receiving Station-Line 1</p> <p>Serial Number of Main Meter: 01958995 Serial Number of Check Meter: 01959004 Frequency of Calibration- 1 year Last date of Test- 8th June 2009 Validity of Test- 1 year</p> <p>Receiving Station-Line 2</p> <p>Serial Number of Main Meter: 03074058 Serial Number of Check Meter: 03074065 Frequency of Calibration- 1 year Last date of Test- 8th June 2009</p> <p>Validity of Test- 1 year</p>
Measuring/ Reading/ Recording frequency:	Monthly: The reading is jointly noted by the representatives of state utility and Enercon. The value of EGy for the project activity is also provided in the JMR (Form B) and is applied directly for calculation of emission reductions.
Calculation method (if applicable):	<p>$EGy = \sum j((E_{ej} - 115\% * E_{ij}) - L_j)$</p> <p>Refer section E.1 for details and description of the E_{ej}, E_{ij} and L_j.</p>
QA/QC procedures applied:	QA/QC procedures are implemented by state utility pursuant to the provisions of the power purchase agreement. Refer section C of

SECTION E. Emission reductions calculation**E.1. Baseline emissions calculation**

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“The baseline is the kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kg CO₂e/kWh) calculated in a transparent and conservative manner as the weighted average emissions (in kg CO₂e/kWh) as described in registered PDD.

$$BE_y = EG_y * EF_y$$

Where,

BE_y is baseline emissions in year y, tCO₂e

EG_y is the net electricity supplied to the grid in year y and is applied directly from JMR (Form B) certified by state utility. This value can also be cross checked from the invoice.

EF_y is the CO₂ emission factor of the grid (963.3877 tCO₂e/GWh fixed ex-ante).

Procedure for computing net electricity supplied to the grid as given in the JMR (Form B) for the project activity is as follows:

$$EG_y = \sum_j ((E_{ej} - 115\% * E_{ij}) - L_j)$$

EG_y : Electricity supplied to grid by the project activity

E_{ej} : Electricity export noted at pooling station by individual sub projects j

E_{ij} : Electricity import noted at pooling station by individual sub projects j

L_j : Transmission losses allotted on each sub project j

Month	Net Energy Supplied by CEPCO [kWh]	Net Energy Supplied by EWFIL [kWh]	Baseline Emission Factor (EF _y) [tCO ₂ e/MWh]	Baseline Emissions (BE _y) [tCO ₂ e]
Jul-07	3534869	4116944	0.9633877	7371
Aug-07	3427204	4280248	0.9633877	7425
Sep-07	2635901	3227864	0.9633877	5649
Oct-07	1332825	1205997	0.9633877	2445
Nov-07	666835	987061	0.9633877	1593
Dec-07	1243285	1731911	0.9633877	2866
Jan-08	968141	1410536	0.9633877	2291
Feb-08	484544	624668	0.9633877	1068
Mar-08	854027	1203649	0.9633877	1982
Apr-08	962096	831463	0.9633877	1727
May-08	2916219	2414935	0.9633877	5135
Jun-08	3056511	3788146	0.9633877	6594
Jul-08	3230912	3802510	0.9633877	6775
Aug-08	2554070	3027672	0.9633877	5377

Sep-08	2224654	2507234	0.9633877	4558
Oct-08	862423	1073032	0.9633877	1864
Nov-08	886933	1130546	0.9633877	1943
Dec-08	965825	1401823	0.9633877	2280
Jan-09	1095042	1605225	0.9633877	2601
Feb-09	664516	840502	0.9633877	1449
Mar-09	503742	611269	0.9633877	1074
Apr-09	1173666	1098523	0.9633877	2188
May-09	2474531	2203543	0.9633877	4506
Jun-09	2917393	2997882	0.9633877	5698
Jul-09	3916518	5304750	0.9633877	8883
Aug-09	2641177	3296004	0.9633877	5719
Sep-09	2016886	2355353.5	0.9633877	4212
Oct-09	1321399	1718477	0.9633877	2928
Nov-09	930443	1275180	0.9633877	2124
Dec-09	923534	1562263	0.9633877	2394
Total Baseline Emissions				112719

E.2. Project emissions calculation

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The project activity is a renewable energy project which generates electricity using wind power and hence does not result in project emissions.

E.3. Leakage calculation

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No leakage is considered from the project activity as per approved methodology ACM0002, Version 03.

E.4. Emission reductions calculation / table

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The total emission reductions achieved during the monitoring period is calculated as:

$$ER_y = BE_y - PE_y - LE_y$$

Where,

ER_y are emission reductions in year y, tCO₂e

BE_y are baseline emissions in year y, tCO₂e

PE_y are project emissions in year y, tCO₂e

LE_y are leakage in year y, tCO₂e

Emission reductions are equal to baseline emissions as emissions due to project and leakage are zero.

Total baseline emissions: 1,12,719 tCO₂

Total project emissions: Zero

Total leakage: Zero

Thus Emission reductions for project activity is

$$ER_y = BE_y = 1,12,719 \text{ tCO}_2$$

Month	Baseline Emissions [tCO ₂ e]	Project Emissions [tCO ₂ e]	Leakage Emissions [tCO ₂ e]	Emission Reductions [tCO ₂ e]
Jul-07	7371	0	0	7371
Aug-07	7425	0	0	7425
Sep-07	5649	0	0	5649
Oct-07	2445	0	0	2445
Nov-07	1593	0	0	1593
Dec-07	2866	0	0	2866
Jan-08	2291	0	0	2291
Feb-08	1068	0	0	1068
Mar-08	1982	0	0	1982
Apr-08	1727	0	0	1727
May-08	5135	0	0	5135
Jun-08	6594	0	0	6594
Jul-08	6775	0	0	6775
Aug-08	5377	0	0	5377
Sep-08	4558	0	0	4558
Oct-08	1864	0	0	1864
Nov-08	1943	0	0	1943
Dec-08	2280	0	0	2280
Jan-09	2601	0	0	2601
Feb-09	1449	0	0	1449
Mar-09	1074	0	0	1074
Apr-09	2188	0	0	2188
May-09	4506	0	0	4506
Jun-09	5698	0	0	5698
Jul-09	8883	0	0	8883
Aug-09	5719	0	0	5719
Sep-09	4212	0	0	4212
Oct-09	2928	0	0	2928
Nov-09	2124	0	0	2124
Dec-09	2394	0	0	2394
Total	1,12,719	0	0	1,12,719

Total Emission Reductions for the monitoring period are **1,12, 719** tCO₂.

E.5. Comparison of actual emission reductions with estimates in the CDM-PDD

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Item	Values applied in ex-ante calculation of the registered CDM-PDD	Actual values reached during the monitoring period
Emission reductions (tCO ₂ e)	41,531 for each year, the monitoring period contains 2 years 6 months hence estimated CER's as per the PDD are 103,828	1,12,719

The CER's for the said monitoring period are 8.55% higher as estimated in the PDD.

E.6. Remarks on difference from estimated value in the PDD

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The CER's for the said monitoring period are 8.55% higher than as estimated in the PDD. This is due to higher PLF than estimated during the monitoring period.

The estimated PLF during decision making was arrived from the data provided by the Wind Resource Department (WRD) of project developer, which was derived from the wind mast installed at the project site. The PLF was determined from the data available for the period ranging from October 1995 to September 2000, i.e. 5 years data prior to decision making. In addition to the wind mast data, publically available wind data of National Oceanic and Atmospheric Administration (NOAA) was also referred to by the project developer while arriving at the estimated PLF for the project site.

The increase or decrease in PLF is due to the seasonal variation in wind pattern, which is beyond the control of the project Proponent.

Appendix 1

Metering Arrangement for the Project Activity

