

TUPADAHALLI WIND ENERGY PROJECT

Document Prepared By Tuppadahalli Energy India Private Limited

Project Title	Tuppadahalli Wind Energy Project
Version	Version 3.0
Report ID	<i>VCU-MR-1</i>
Date of Issue	<i>21 September 2012</i>
Project ID	<i>VCS project database ID, if registered</i>
Monitoring Period	<i>29-July -2011 to 31-March-2012</i>
Prepared By	<i>Rajnish Krishanlal Sapra</i>
Contact	<i>Tuppadahalli Energy India Private Limited, C1-001, Tower C, The Millennia, 1&2 Murphy Road, Ulsoor, Bangalore 560 008. Email: rsapra@acciona.com; Telephone: +918041557102</i>

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1 PROJECT DETAILS

1.1 Summary Description of Project

Purpose of the Project Activity:

The main purpose of this project activity is to generate clean form of electricity from renewable wind resources. This project activity is the installation of Wind Turbine Generators (WTG's) in Shimoga and Chitradurga Districts of Karnataka, India promoted by the project proponent, an Indian company that is a 100% subsidiary of the Spanish Acciona group of companies, i.e., Acciona Energía Internacional, S.A. and Acciona, S.A. The total installed capacity of this project activity is 56.10 MW from 34 WTGs and the capacity of each WTG is 1.65 MW. The entire power generated will be exported to the state grid maintained by the Karnataka Power Transmission Corporation Limited (KPTCL). The electricity generated will be supplied to Mangalore Electricity Supply Company (MESCOM) under a long-term Power Purchase Agreement (PPA). MESCOM is a licensed electricity distribution company, owned and controlled by the State Government of Karnataka, and an integral part of the Southern Regional Grid.

In the absence of the project activity the equivalent amount of electricity would have been generated from the grid connected/new power plants in the southern grid which are/will be predominately based on fossil fuels. The fossil fuel based power generation has been the mainstay of electricity generation in the Indian Power Sector.

Contribution to Sustainable development:

Ministry of Environment and Forests, Govt. of India has stipulated the social well-being, economic well-being, environmental well-being and technological well-being as the four indicators for sustainable development in the interim approval guidelines host country approval eligibility criteria for Clean Development Mechanism (CDM) projects¹.

Social and Economic well-being:

The proposed project activity would lead to direct and indirect benefits to the region through the generation of local employment in areas in and around the project activity, and the improved conditions for developing economic activities, which may result from the empowerment of vulnerable sections of society dwelling near the project area due to the creation of employment opportunities. The proposed project activity supplies electricity to the grid and this may ultimately benefit the local communities with improved power supply and in this case this power supply is renewable, hence assisting in the quest for energy security of the current and future generations.

Environmental well-being:

Wind energy is one of the cleanest, most sustainable ways of generating electricity, which produces no emissions such as SO_x, NO_x, or particulates. Because wind energy is a renewable resource, the project will also contribute to resource conservation, of coal, diesel and other non-renewable energy resources

Technological well being:

The development of the proposed project activity is important now, in that it acts as a stimulus and an accelerant to the wind and renewable energy sector in India. This will also assist in further encouraging

¹http://envfor.nic.in/divisions/ccd/cdm_iac.html

R&D efforts by technology providers, which will lead to the development of better and more efficient equipment.

All the above are the contribution of the project activity for the sustainable development

1.2 Sectoral Scope and Project Type

The project activity is considered under UNFCCC – CDM category “Zero emissions – grid connected electricity generation from renewable sources” with capacity greater than 15 MW and is not a grouped project activity. As per the scope of the project activity enlisted in the ‘list of sectoral scopes and related approved baseline and monitoring methodologies’, the project activity may be principally categorized as –

Category: 1; Energy industries (renewable/non-renewable sources)

1.3 Project Proponent

The project proponent, Tuppadahalli Energy India Private Limited is a company created for a specific purpose and its objective is the promotion of renewable energy projects. [The project proponent is responsible for the emission reduction program, whereas the day to day O&M has been contracted to the WTG manufacturer.](#)

Organization:	Tuppadahalli Energy India Pvt. Ltd.
Street/P.O.Box:	C1-001, Tower C, The Millennia
Building:	No.1 &2, Murphy Road, Ulsoor
City:	Bangalore
State/Region:	Karnataka
Postcode/ZIP:	560008
Country:	India
Telephone:	+91-80-41557102
FAX:	+91-80-41557110
E-Mail:	rsapra@acciona.com
URL:	
Represented by:	
Title:	Authorized Representative
Salutation:	Mr.
Last name:	Sapra
Middle name:	Krishanlal

First name:	Rajnish
Department:	Finance
Mobile:	
Direct FAX:	+91-80-41557110
Direct tel:	+91-80-41557102
Personal e-mail:	rsapra@acciona.com

1.4 Other Entities Involved in the Project

Not Applicable.

1.5 Project Start Date

The project activity began on the date of placing work orders for wind turbines: 13/09/2010. Contract was executed for the WTGs by Acciona Energy India Pvt. Ltd. with the technology supplier, and was later assigned to the SPV formed to house the project named Tuppadahalli Energy India Pvt. Ltd. The project commissioning started with commissioning the first WTG on 29 July 2011 which is the start date for the GHG emission reductions.

1.6 Project Crediting Period

The starting date of the first crediting period for the project will be the date the wind farm begins its commissioning. The project owner wishes to claim VCUs from project commissioning on 29 July 2011 until the midnight falling between 31 March 2012 and 1 April 2012. The expected operational lifetime of the project activity is 20 years and the project proponent expects to go for a renewable crediting period of 7 years. So, the first crediting period will go from 1 April 2012 to 31 March 2019 since the project is registered under UNFCCC. The project has a seven year twice renewable project crediting period and will not go for VCU issuance beyond the end of those periods. Although the project was registered under the UNFCCC Kyoto Protocol as a CDM project with effect from 26 March 2012, the project owner will claim VCUs until 31 March 2012 and confirms that CERs will not be claimed under the UNFCCC or any other GHG mechanism for the period 26 March 2012 until 31 March 2012 and there will be no double counting of carbon credits. The change in start date has been informed to UNFCCC and they have acknowledged the change in start date to 1 April 2012.

1.7 Project Location

The project site is located near Village of Tuppadahalli in the Hollalkere and Chennagiri Taluk in the district of Shimoga and Chitradurga in the Indian state of Karnataka. Tuppadahalli is approximately 55 km from Chitradurga town and approximately 260 km from Bangalore, the capital city of Karnataka. The nearest rail head from the project site is Ramgere Railway station which is about 12 km from the project site and the nearest airport is Bangalore airport which is about 260 km from the project site. The site of Tuppadahalli is located at a latitude and longitude of around 13° 50' 00" – 14° 00' 00" N and 76°00' 00" – 76°05'00" E. The individual WTG coordinates within the project site are given in section 5 of this report.

The location of the project site in the state map of Karnataka, India, is shown below²:

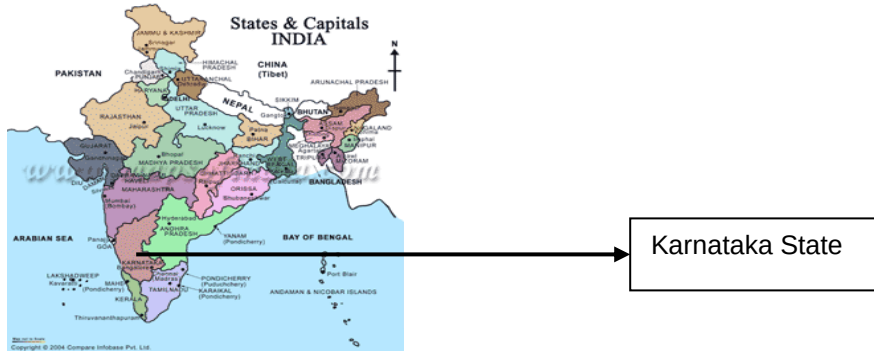


Fig 1: Location of Karnataka State in India Map



Fig 2: Location of Districts in Karnataka State Map

1.8 Title and Reference of Methodology

Approved consolidated baseline methodology **ACM0002³“Consolidated baseline methodology for grid connected electricity generation from renewable sources”**; Version 12.2.0.

2 IMPLEMENTATION STATUS

²www.mapsofindia.com

³<http://cdm.unfccc.int/methodologies/DB/C505BVV9P8VSNNV3LTK1BP3OR24Y5L>

2.1 Implementation Status of the Project Activity

- The project commissioning started with commissioning the first WTG on 29 July 2011.. In the site, each turbine had a different commissioning date as follows:

Wind Turbine Generator Number	Commissioning Date	Evidenced by MESCOM Commissioning Certificate
TH-1	October 22, 2011	EE/AEE(O)AET-1-/F-8711-22 dated October 24, 2011
TH-2	October 22, 2011	EE/AEE(O)AET-1-/F-8711-22 dated October 24, 2011
TH-3	October 22, 2011	EE/AEE(O)AET-1-/F-8711-22 dated October 24, 2011
TH-4	October 22, 2011	EE/AEE(O)AET-1-/F-8711-22 dated October 24, 2011
TH-5	October 22, 2011	EE/AEE(O)AET-1-/F-8711-22 dated October 24, 2011
TH-6	October 22, 2011	EE/AEE(O)AET-1-/F-8711-22 dated October 24, 2011
TH-7	October 22, 2011	EE/AEE(O)AET-1-/F-8711-22 dated October 24, 2011
TH-8	October 22, 2011	EE/AEE(O)AET-1-/F-8711-22 dated October 24, 2011
TH-9	September 28, 2011	EE/AEE(O)AET-1-/F-7826-36 dated October 03, 2011
TH-10	September 28, 2011	EE/AEE(O)AET-1-/F-7826-36 dated October 03, 2011
TH-11	September 28, 2011	EE/AEE(O)AET-1-/F-7826-36 dated October 03, 2011
TH-12	October 22, 2011	EE/AEE(O)AET-1-/F-8711-22 dated October 24, 2011
TH-13	September 28, 2011	EE/AEE(O)AET-1-/F-7826-36 dated October 03, 2011
TH-14	September 28, 2011	EE/AEE(O)AET-1-/F-7826-36 dated October 03, 2011
TH-15	September 28, 2011	EE/AEE(O)AET-1-/F-7826-36 dated October 03, 2011
TH-16	September 28, 2011	EE/AEE(O)AET-1-/F-7826-36 dated October 03, 2011
TH-17	September 28, 2011	EE/AEE(O)AET-1-/F-7826-36 dated October 03, 2011
TH-18	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-19	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-20	September 28, 2011	EE/AEE(O)AET-1-/F-7815-25 dated October 03, 2011
TH-21	September 28, 2011	EE/AEE(O)AET-1-/F-7815-25 dated October 03, 2011
TH-22	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-23	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-24	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-25	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-26	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-27	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-28	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-29	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-30	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-31	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-32	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-33	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011
TH-34	July 29, 2011	EE/AEE(O)AET-1-F-5020-31 dated August 04, 2011

- The project has been working under proof starting from 29 July 2011 (date of commercial operation evidenced by the Commissioning Certificate received from Mangalore Electricity Supply Company Limited. Net energy sold to the grid is paid by MESCOM at an accepted price of Rs.3.70/kWh as per the PPA signed with them and as per the meter readings confirmed by MESCOM.
- During the monitoring period, there have been no major repairs or changes to the installed equipment.
- The project activity has an operational lifetime of approximately 20 years.
- The project has been registered under the UNFCCC as a CDM project. Although the project was registered under the UNFCCC Kyoto Protocol as a CDM project with effect from 26 March 2012, the project owner will claim VCUs until 31 March 2012 and confirms that CERs will not be claimed under the UNFCCC or any other GHG mechanism for the period 26 March 2012 until 31 March 2012 and

there will be no double counting of carbon credits. The change in start date has been informed to UNFCCC and they have acknowledged the change in start date to 1 April 2012.

Personnel in charge of implementing procedures have been properly trained.

2.2 Deviations from the Monitoring Plan

There has been no request for deviation for this monitoring period.

2.3 Grouped Project

Not applicable.

3 DATA AND PARAMETERS

3.1 Data and Parameters Available at Validation

Data Unit / Parameter:	EF _{OM}
Data unit:	tCO ₂ eq/MWh
Description:	Operating Margin emission factor of the Southern Regional Grid
Source of data:	Central Electricity Authority (CEA) CO ₂ Baseline Database values have been used for calculation ⁴ .
Value applied:	0.9867
Purpose of the data:	To calculate baseline emissions.
Any comment:	The above value is fixed and it is same for the entire crediting period

Data Unit / Parameter:	EF _{BM}
Data unit:	tCO ₂ eq/MWh
Description:	Build Margin emission factor of the Southern Regional Grid
Source of data:	Central Electricity Authority (CEA) CO ₂ Baseline Database values have been used for calculation ⁵ .
Value applied:	0.8179
Purpose of the data:	To calculate baseline emissions

⁴http://www.cea.nic.in/reports/planning/cdm_co2/Database_publishing_ver5.zip

⁵http://www.cea.nic.in/reports/planning/cdm_co2/Database_publishing_ver5.zip

Any comment:	The above value is fixed and it is same for the entire crediting period
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Data Unit / Parameter:	EF _{CM}
Data unit:	tCO ₂ eq/MWh
Description:	Combined Margin emission factor of the Southern Regional Grid
Source of data:	Central Electricity Authority (CEA) CO ₂ EF _{OM} and EF _{BM} values have been used for calculation.
Value applied:	0.9445
Purpose of the data:	To calculate baseline emissions
Any comment:	The above value is fixed and it is same for the entire crediting period

3.2 Data and Parameters Monitored

Data Unit / Parameter:	EG _y
Data unit:	MWh
Description:	Net quantity of electricity exported to the grid by the project activity during the year y
Source of data:	1. Form-B for which values are determined Joint meter statements 2. Invoices raised by PP to MESCOM.
Description of measurement methods and procedures to be applied:	This is based on the joint meter reading carried out by site personnel and MESCOM and/or KPTCL representatives. Monthly generation data is directly measured from the installed main meter readings. The same will form the basis for raising invoice and receiving payments for net electricity sold. Data integrity between main and check meters reading will be performed. If there is any discrepancy, a report explaining the problem detected and the corrective actions to be taken will be created and documented. The calibration of the energy meters is sole responsibility of the State Electricity Utility or an entity authorized by the State Electricity Utility. In

	case the Main and Check meters are found to be faulty, the correction factor as per the requirements stated in PPA would be applied to determine the electricity generation for that period. Measurement methods and procedures: Data Type: Measured and Calculated (Export - Import) Monitoring: Energy Meter is used for monitoring Calibration Frequency: Annually Archiving Policy: Paper and / or Electronic
Frequency of monitoring/recording:	Monitoring Frequency: Continuously Recording Frequency: Monthly from Energy Meter, summarized annually
Value monitored:	57,918 MWh
Monitoring equipment:	Regulatory number for meters in Shivani substation: - Line 1 - RR No.IPP/SHIV-01 - Line 2 - RR No.IPP/SHIV-02 Serial number for meters Shivani substation: - Main: Line 1 - 09142619 Line 2 - 09142471 - Check: Line 1 - 09142591 Line 2 - 09142447 Main and check meters are 0.2 accuracy class.
QA/QC procedures to be applied:	Energy meters record export and import of energy. The Project Participant would raise bill to the MESCOM on monthly basis for the energy fed into the grid after deducting the energy imported from the grid. Energy meters will be tested for accuracy every year and will be calibrated in case of an error beyond permissible limits. Sales record to the grid and the invoice raised for receiving payment from state electricity board are used to cross check this data and hence ensure consistency. Main meter, in utility substation at Shivani, had

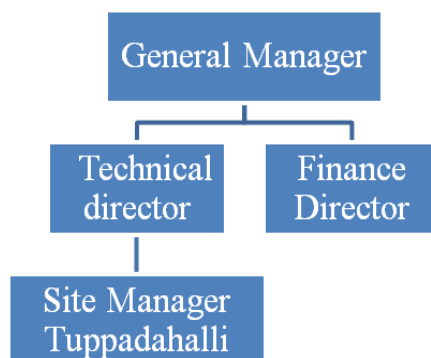
	been tested and calibrated before installation by Karnataka Power Transmission Corporation Limited on 28 May, 2011. The meters were last calibrated for the period of monitoring on 14 March, 2012.. Check meter, in utility substation in Shivani, had been tested and calibrated before installation by Karnataka Power Transmission Corporation Limited on 28 May, 2011. The meters were calibrated for the period of monitoring on 14 March, 2012.
Calculation method:	Net quantity of electricity exported to the grid by the project activity is directly obtained from the meters and is multiplied by 3,50,000 which is the multiplying constant for 0.2 class accuracy.
Any comment:	The Monitored Data to be kept for a minimum of two years after the end of the crediting period or the last issuance whichever is later.

3.3 Description of the Monitoring Plan

According to approved monitoring methodology ACM0002 Version 12.2.0, Sectoral Scope 1, "Consolidated Monitoring Methodology for Zero Emissions grid connected electricity generation sources" is proposed to be used to monitor the emission reductions.

Important information on monitoring is provided below:

Organisational structure: Following management structure is proposed to be implemented at site for the monitoring of project activity. There might be changes in this structure in terms of roles however the responsibilities undertaken by the roles would always be maintained.

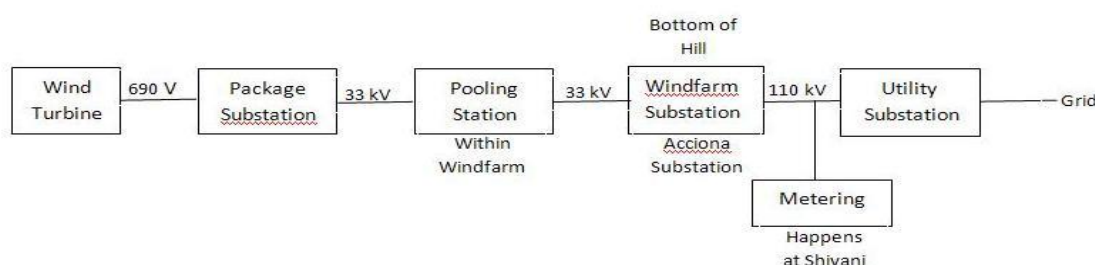


Role

Responsibility

General Manager	Overall responsible for the management of project activity
Technical Director	Ensure correctness of data and compliance of monitoring methodology
Finance Director	Generation of invoices and CER calculation
Site Manager	Ensuring proper data recording and calibration of relevant meters as per the defined frequency.

The line diagram reflecting the generation until metering where the GHG calculation happens is given below:



Generating point: This would be exact place where energy is generated at the various individual windmills. It is reflected as “Wind Turbine” in above diagram.

Border point: It is the connection point of the electrical line between the wind-farm and the grid (MESCOM). It is reflected as “Windfarm substation” in above diagram.

Point of measurement: The exact place where meters are connected to measure energy fed in to the grid. It is reflected as “Metering” in above diagram.

Each of the double circuit lines has a measuring point with two measurement meters:

Main meter: This would primarily be used for accounting and billing of electricity.

Check meter: This shall be connected to the same core of the Current Transformer (CT) and Voltage Transformer (VT) to which main meter is connected and be used for accounting and billing of electricity in case of failure of main meter.

All the meters would be of 0.2 accuracy class.

Data storage:

Electricity generation related evidence or data will be stored in the electronic format and/or hard copy format during the running of the project and for a minimum of two years after the end of the crediting period or the last issuance, whichever is later.

Main and check meters reading:

The reading shall be taken simultaneously and jointly periodically by the company personnel along with the MESCOM and/or KPTCL officials as per the regulatory requirements. The same will form the basis for raising invoice and receiving payments for net electricity sold. Data integrity between main and check meters reading will be performed. If there is any discrepancy, a report explaining the problem detected and the corrective actions to be taken will be created and documented.

The calibration of the energy meters is sole responsibility of the State Electricity Utility or an entity authorized by the State Electricity Utility.

Data uncertainty:

In case the Main and Check meters are found to be faulty, the correction factor as per the requirements stated in PPA would be applied to determine the electricity generation for that period.

Procedure in case the effective date of registration falls within the billing cycle:

The project participant will request the Utility to certify the JMR readings from the date of registration till the next start date of the billing cycle. In the event of the above mentioned doesn't take place, since it is not an obligation of the Utility, Project Participant will make necessary arrangements for the relevant documents available to the DOE during the verification of the project activity.

4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

The emission reduction ER_y by the project activity during a given year y is the difference between baseline emissions (BE_y), project emissions (PE_y) and emissions due to leakage (L_y), as follows:

$$ER_y = BE_y - PE_y - L_y.$$

Baseline Emission are calculated by multiplying the net quantity of electricity supplied by this project activity (EG_y) with the CO₂ baseline emission factor for the electricity displaced due to the project ($EF_{CO2\ elec}$) as follows:

$$BE_y = EG_{BL,y} * EF_{CO2}$$

Where:

$$\begin{aligned} EF_{CO2\ elec, y} &= 0.9445tCO_2/MWh \\ EG_{BL,y} &= 57,918 MWh \end{aligned}$$

Net electricity supplied to the grid by the project is calculated using below table:

	Tuppadahalli Line 1					
	ELECTRICITY EXPORTED TO THE GRID			ELECTRICITY IMPORTED FROM THE GRID		
PERIOD	MAIN METER (KWh)	CHECK METER (KWh)	VALUE FOR VCUs (MWh)	MAIN METER (KWh)	CHECK METER (KWh)	VALUE FOR VCUs (MWh)
JULY 2011	-	-	-	14,000.00	14,000.00	14.00
AUGUST 2011	52,500.00	52,500.00	52.50	24,500.00	24,500.00	24.50
SEPTEMBER 2011	-	-	-	24,500.00	24,500.00	24.50
OCTOBER 2011	1,925,000.00	1,925,000.00	1,925.00	17,500.00	17,500.00	17.50
NOVEMBER 2011	4,662,000.00	4,662,000.00	4,662.00	3,500.00	3,500.00	3.50
DECEMBER 2011	5,033,000.00	5,033,000.00	5,033.00	14,000.00	14,000.00	14.00
JANUARY 2012	3,598,000.00	3,598,000.00	3,598.00	28,000.00	24,500.00	28.00
FEBRUARY 2012	4,287,500.00	4,287,500.00	4,287.50	21,000.00	24,500.00	24.50
MARCH 2012	3,521,000.00	3,521,000.00	3,521.00	21,000.00	21,000.00	21.00
TOTAL			23,079.00			171.50
NET ELECTRICITY	22,907.50	MWh	Lower of 'Main' and 'Check' Meter taken for electricity exported and higher of 'Main' and 'Check' Meter taken for electricity imported.			
BASELINE Emission Factor	0.9445	tCO ₂ /MWh				
Baseline emissions	21,636.13	tCO ₂				
	Tuppadahalli Line 2					
	ELECTRICITY EXPORTED TO THE GRID			ELECTRICITY IMPORTED FROM THE GRID		
PERIOD	MAIN METER (KWh)	CHECK METER (KWh)	VALUE FOR VCUs (MWh)	MAIN METER (KWh)	CHECK METER (KWh)	VALUE FOR VCUs (MWh)
JULY 2011	196,000.00	199,500.00	196.00	7,000.00	10,500.00	10.50
AUGUST 2011	6,888,000.00	6,891,500.00	6,888.00	3,500.00	-	3.50
SEPTEMBER 2011	6,307,000.00	6,307,000.00	6,307.00	-	-	-
OCTOBER 2011	2,485,000.00	2,488,500.00	2,485.00	35,000.00	35,000.00	35.00
NOVEMBER 2011	4,280,500.00	4,280,500.00	4,280.50	3,500.00	7,000.00	7.00
DECEMBER 2011	4,511,500.00	4,515,000.00	4,511.50	14,000.00	14,000.00	14.00
JANUARY 2012	3,353,000.00	3,353,000.00	3,353.00	31,500.00	28,000.00	31.50
FEBRUARY 2012	4,214,000.00	4,214,000.00	4,214.00	24,500.00	24,500.00	24.50
MARCH 2012	2,926,000.00	2,929,500.00	2,926.00	24,500.00	24,500.00	24.50
TOTAL			35,161.00			150.50
NET ELECTRICITY	35,010.50	MWh	Lower of 'Main' and 'Check' Meter taken for electricity exported and higher of 'Main' and 'Check' Meter taken for electricity imported.			
BASELINE Emission Factor	0.9445	tCO ₂ /MWh				
Baseline emissions	33,067.42	tCO ₂				
TOTAL Line 1 + Line 2						
NET ELECTRICITY	57,918.00	MWh				
BASELINE Emission Factor	0.9445	tCO ₂ /MWh				
Baseline emissions	54,703.55	tCO ₂				
ROUNDED OFF	54,703	VCUs				

Putting EG and EF in above formula: BE_y= 54,703 tCO₂

4.2 Project Emissions

This project activity is a grid connected wind power generation. Hence there is no project emission from the project activity.

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

4.3 Leakage

According to ACM0002, no leakage emissions are considered.

There is no leakage to this project so $L_y = 0$.

4.4 Summary of GHG Emission Reductions and Removals

Since both project emissions (PE_y) and emissions due to leakage (L_y) are zero, then, $ER_y = BE_y$. i.e. the emission reductions are the baseline emissions in this project:

$$ER_y = 54,703 \text{ tCO}_2$$

The total Emission Reduction (ER) from this project activity in the period is 54,703 tCO₂

Total Baseline Emissions in tCO ₂ e	Total Project Emissions in tCO ₂ e	Total Leakage in tCO ₂ e	Total Overall Emission Reductions (ER _y) tCO ₂ e
54,703	-	-	54,703

5 ADDITIONAL INFORMATION

The latitude and longitude details of each of the WTGs at the project site are as follows:

GPS COORDINATES:

Location No.	Easting(X)	Northing(Y)
TH-01	609405	1534027
TH-02	609027	1534293
TH-03	609282	1534470
TH-04	609501	1534630
TH-05	609497	1534848
TH-06	609704	1535054
TH-07	609718	1535315
TH-08	610277	1535583

TH-09	610530	1535717
TH-10	610573	1536254
TH-11	609875	1536351
TH-12	608947	1536700
TH-13	609865	1536746
TH-14	611105	1536762
TH-15	611169	1537003
TH-16	611243	1537261
TH-17	611388	1537489
TH-18	611598	1537685
TH-19	611339	1537838
TH-20	611310	1538103
TH-21	611212	1538500
TH-22	611150	1538812
TH-23	611358	1539217
TH-24	611626	1539342
TH-25	611763	1539627
TH-26	611887	1539842
TH-27	612043	1540027
TH-28	612134	1540357
TH-29	612160	1540628
TH-30	612539	1540911
TH-31	612857	1541623
TH-32	613062	1541896
TH-33	613154	1542117
TH-34	613303	1542494