

BUNDLED WIND POWER PROJECT BY KMSPL, BANGALORE

Submitted by

Kanaka Management Services Pvt. Ltd.

**#271, SFS 407, 4th Phase, Yelahanka New Town,
Bangalore 560 064, Karnataka State,
India.**

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1 PROJECT DETAILS

1.1 Summary Description of Project

The project is bundled by Kanaka Management Services Pvt. Ltd. (KMSPL) Bangalore. It is established to harness the available wind power potential with 49 numbers of WTGS in Tamilnadu & Karnataka, aggregating to a total installed capacity of 38.275 MW. The project will generate approximately 89.92 million units of electricity per annum, which is sold to the grid or wheeled for captive consumption. The generation of power using wind energy i.e. renewable source leads to reduced emission of green house gases and displaces electricity from fossil fuel based electricity generation to the grid

1.2 Sectoral Scope and Project Type

Project Type: Renewable Energy Project

Project Category: Grid connected electricity generation from Renewable sources

Scope Number: 01

Sectoral scope: Energy industries ((renewable - / non-renewable sources)

1.3 Project Proponent

Contact information of the project proponent

Organization:	Kanaka Management Services Pvt. Ltd.
Street/P.O.Box:	
Building:	# 271, SFS 407, 4 th Phase, Yelahanka New Town
City:	Bangalore
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1.4 Other Entities Involved in the Project

All the individual WTG owners have given the emission related rights to the KMSPL. The Contact information of the project proponent is provided in section 1.3.

1.5 Project Start Date

Project start date 22 March 2005

1.6 Project Crediting Period

01 April 2006 - 31 March 2016 total number of crediting period is 10 years.

1.7 Project Location

The project activity is located in the districts of Tirunelveli, Coimbatore and Erode in the State of Tamil Nadu and in the districts of Hassan and Davangere in the State of Karnataka, India

Unique identification of each WTG under each sponsor:

S.no	Client name	WTG size (MW)	Grid / Captive	HTSC no:	State / District / Place	Geographical coordinates
1.	Madras Hydraulic Hose (P)Ltd	0.75	captive	1162	Tirunelveli, Tamilnadu	N 08 58 00.01, E 77 23 59.99
2.	Shanthi Gears Ltd.	1.25	Grid	1624/TI N	Tirunelveli, Tamilnadu	N 08 59 28.00, E 77 32 41.80
		1.5	Captive	2417	Tirunelveli, Tamilnadu	N 08 59 35.60, E 77 31 56.10
		1.25	Grid	1963	Tirunelveli, Tamilnadu	N 09 01 11.30, E 77 33 30.50
		1.25	Grid	2020	Tirunelveli, Tamilnadu	E 77 45 41.00, N 08 14 14.00
3.	Raj Ranga Textile Pvt. Ltd.	1.25	Captive	294	Coimbatore, Tamilnadu	N 10 48 09.50, E 77 08 42.90
4.	Suueera Alloys Global Pvt. Ltd	1.25	Captive	989	Coimbatore, Tamilnadu	N 10 48 23.20, E 77 08 50.80
5.	Cotton Blossom India Pvt. Ltd.	0.75	Grid	1416	Tirunelveli, Tamilnadu	N 08 5743.60, E 77 08 30.01
		0.75	Grid	2048	Tirunelveli, Tamilnadu	N 08 55 23.00, E 77 3814.0
6.	Ambica Agarbathis and Aroma Industries Ltd.	0.75	Captive	1198	Tirunelveli, Tamilnadu	N 08 58 21.70, E 77 26 53.20

7.	Tirupur Export Knitwear Industrial Complex	1.00	Grid	1269	Tirunelveli, Tamilnadu	N 08 18 09.10, E 77 41 28.50,
		1.5	Grid	1270	Tirunelveli, Tamilnadu	N 08 18 0.90, E 77 41 28.60
		1.5	Grid	1271	Tirunelveli, Tamilnadu	N 08 18 12.60, E 77 41 38.60
8.	Ansan Textile	0.225	Captive	609	Coimbatore, Tamilnadu	N 10 5547.30, E 77 17 43.90
9.	Sree Santhosh Garments	0.225	Captive	473	Coimbatore, Tamilnadu	N 10 55 21.40, E 77 17 39.10
10.	Mod Forge Pvt. Ltd.	0.75	Captive	1952	Tirunelveli, Tamilnadu	N 09 00 12.30, E 77 32 02.05
11.	Sri Kumaran Wind Energy (P) Ltd	1.25	Captive	1739	Tirunelveli, Tamilnadu	N 08 59 02.24, E 77 32 56.62
		1.25	Captive	1725	Tirunelveli, Tamilnadu	N 08 58 55.11, E 77 32 38.14
		1.25	Captive	1726	Tirunelveli, Tamilnadu	N 08 59 06.73, E 77 33 40.68
12.	Eskay Design	1.25	Grid	1982	Tirunelveli, Tamilnadu	N 08 59 50.90, E 77 32 54.40
13.	Nutech Associates	1.25	Grid	1198	Erode, Tamilnadu	N 10 39 42.90, E 77 24 47.30
		0.75	Grid	1412	Tirunelveli, Tamilnadu	N 08 15 51.60, E 77 37 59.40
		1.50	Grid	H-21	Hassan, Karnataka	N 13 10 38.50, E 76 11 43.94
14.	Oriental Extractions Pvt. Ltd.	0.35	Captive	1201	Coimbatore, Tamilnadu	N 10 35 43.90, E 77 18 07.00
		0.35	Captive	1206	Coimbatore, Tamilnadu	N 10 36 12.30, E 77 19 20.40
15.	Nagammal Mills Pvt. Ltd.	0.75	Grid	1626	Tirunelveli, Tamilnadu	N 08 58 54.25, E 77 27 31.63
		0.75	Grid	2126	Tirunelveli, Tamilnadu	N 09 00 54.37, E 77 24 29.37
16.	Best Engineers	1.25	Grid	1939	Tirunelveli,	N 08 59 19.40,

	Pumps Pvt. Ltd.				Tamilnadu	E 77 33 40.20
17.	Premier Carbonic Pvt. Ltd.	0.35	Grid	1145	Coimbatore, Tamilnadu	N 10 36 22.70, E 7718 28.00
18.	Pure Carbo Gases	0.25	Grid	580	Coimbatore, Tamilnadu	N 10 41 04.00 E 773116.50
19.	Popular Carbonic Pvt. Ltd	0.35	Grid	1144	Coimbatore, Tamilnadu	N 10 35 51.70, E 77 18 02.00
20.	Royal Classic Mills Pvt. Ltd	0.75	Captive	1937	Tirunelveli, Tamilnadu	N 08 58 05.80, E 77 29 54.70
21.	Saranya Garments Pvt. Ltd	0.75	Grid	2124	Tirunelveli, Tamilnadu	N 08 56 40.00, E 77 38 40.30
22.	Cethar Vessels Ltd	1.25	Captive	1648	Tirunelveli, Tamilnadu	N 08 55 36.70, E 77 36 20.60
23.	VT Switch gears & Transformers	0.60	Grid	PS 52	Davangere, Karnataka	N 14 13 59.80, E 75 47 03.10
24.	Shri Santhosh Meenakshi Textiles Pvt. Ltd.	0.50	Captive	624	Coimbatore, Tamilnadu	N 10 54 17.45, E 77 10 25.22
		0.50	Captive	542	Coimbatore, Tamilnadu	N 10 54 20.67, E 77 10 16.51
		0.50	Captive	543	Coimbatore, Tamilnadu	N 10 54 12.88, E 77 10 34.55
		0.50	Captive	628	Coimbatore, Tamilnadu	N 10 55 10.01, E 77 08 46.95
		0.225	Captive	420	Coimbatore, Tamilnadu	N 10 55 27.26, E 77 09 02.48
		0.225	Captive	421	Coimbatore, Tamilnadu	N 10 55 26.59, E 77 08 45.00
25.	Lakshmi Exports	0.35	Grid	637	Coimbatore, Tamilnadu	N 10 56 28.90, E 77 20 42.20
		0.225	Grid	474	Coimbatore, Tamilnadu	N 10 56 27.72, E 77 20 42.27
26.	Adtech Systems Ltd	0.60	Grid	D 126	Dindigul, Tamilnadu	N 10 33 32.96 E 77 25 10.73
27.	Nutech Prasiddhi Consortium	1.50	Grid	H - 20	Hassan, Karnataka	N 13 10 32.17, E 76 11 48.66
28.	Sri Ramaiah Spinners Ltd.	0.35	Captive	2390	Tirunelveli, Tamilnadu	N 08 18 05.29, E 77 37 53.54
29.	Jayashree Cables & Conductors Pvt Ltd.	0.60	Grid	D.127	Dindigul, Tamilnadu	N 10 32 43.46, E 77 25 10.73

1.8 Title and Reference of Methodology

Approved baseline and monitoring methodology applied for the project is:

Title of the methodology: Consolidated baseline methodology for grid connected electricity generation from renewable sources.

VCS Methodology details

Methodology applicable	ACM0002
Version	10
Sectoral scope	01
Reference	http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html

2 IMPLEMENTATION STATUS

2.1 Implementation Status of the Project Activity

The project has been undertaken to harness the available wind power potential. The project has established 49 number of WTG aggregating to a total installed capacity of 38.275 MW. The project will generate approximately 89.92 million units of electricity per annum, which will be entirely sold to the State Electricity Boards or wheeled for captive consumption. The project will help in greenhouse gas emission reduction by using renewable energy resource for generating power which otherwise would have been generated using non- renewable, carbon intensive fuel common in the grid. The project is a green field project aimed at utilizing wind energy to produce power.

The implementation of project will achieve approximately 83,350 tCO₂e emission reduction per annum by replacing grid based electricity which is predominately generated by fossil fuel based thermal power plant in Sothern Grid.

Implementation of this wind based project will reduce the pollution levels from the burning of fossil fuels and release GHG into the atmosphere and displace the electricity purchase from southern regional grid, which in turn reduce the CO₂ emissions from fossil fuel based thermal power plants of southern regional grid.

For the state of Tamilnadu

Metering equipment:

The Project has individual main meter at each WTG installed and owned by the State electricity board. These meters are tri-vector meters of 0.5s accuracy class. The reading of these individual main meters is used for arriving at the monthly generation of the respective WTG.

Calibration of equipment:

The main meter owned by the state electricity board will be calibrated by TNEB officials, according to the frequency and the maintenance schedule as per the TNEB procedures and the PPA signed with the PP or as per the UNFCCC guidelines.

Measuring & recording details:

The daily generation details of individual WTG will be maintained at the wind farms in respective wind farm's electricity meter log books by the O&M team. Net electricity supplied to grid will be measured through meter readings of this two-way export/import meter installed by TNEB. The reading from the main meter (JMR) is recorded on monthly basis by the official from the state electricity board in the presence of a representative of the PP. The Joint Meter Readings (JMR) taken will be sent to individual PP every month. Each PP will then raise an invoice to the Tamil Nadu Electricity Board with respect to the electricity exported to the grid by the WTG(s). The same data will be used for the emission reduction calculation.

Operation & Maintenance:

The project proponents have undertaken an operation and maintenance agreement with the supplier of the wind turbines i.e. Suzlon and Vestas. So the authority and responsibility of O&M lies with the contractor. The WTGs of Suzlon make are monitored continuously by M/s. Suzlon Infrastructure Services Ltd with the help of the Central Monitoring System (CMS) and the total generated values obtained are cross checked with the invoices raised for the particular month.

Archiving of data:

The monitoring records will be archived for whole crediting period + 2 years.

For the state of Karnataka

Metering equipment

For the WTGs in Karnataka, there is one common meter installed at metering site (at the electricity board sub-station, for metering electricity dispatch from project activity WTGs along with a group of WTGs at the site). The metering equipment is electronic trivector system.

Calibration of equipment:

The monitoring instruments owned by the state electricity board will be calibrated by KPTCL officials, according to the frequency and the maintenance schedule as per the KPTCL procedures and the PPA signed with the PP or as per the UNFCCC guidelines.

In case of failure/error in the main meter, readings of check meter will be considered and the main meter will be replaced / calibrated immediately by CESC Mysore /HESCOM officials.

Measuring & recording details:

The JMR taken at one metering point will give the readings of each WEG connected to that metering point. With a main meter & a check meter installed at each metering point, the JMR taken at any one metering point will give readings of both main meter and check meter. However, it is reading of the main meter which is considered for calculations. The readings of main meter are cross-checked against the readings of checkmeter. In case of failure/error in the main meter, readings of check meter will be considered and the main meter will be replaced/ calibrated immediately by electricity board officials.

Net electricity supplied to the regional electricity grid will be calculated using the formula:

$$EGy = TEGy - EGI - EGT-E - EGT-I$$

TEGy = Total electricity generated by the project activity (i.e. Export)

EGI = Electricity imported by the project activity

EGT-E = Transmission loss (or line loss) incurred by the project activity during export of electricity.

EGT-I = Transmission loss (or line loss) incurred by the project activity during import of electricity.

Invoices are raised based on the joint meter readings taken at each metering point as well as at the respective sub-stations.

Operation & Maintenance:

M/s. Suzlon Infrastructure Services Ltd., the service provider for the Suzlon make WTGs have their support office at project sites in Tamil Nadu and Karnataka which includes Customer Relations Manager, Technical Staff, Supervisors, Security Staff, etc. The Monitoring Team is headed by the Site Manager with a team of staff working in three shifts (24x7) to effectively control and monitor the wind power generation.

Archiving of data:

Data is archived both electronically & on paper. Log records will be maintained for two years from the end of the crediting period.

2.2 Deviations from the Monitoring Plan

NA

2.3 Grouped Project

The project is a grouped project consisting of installation and operation of 49 wind turbine generators by 29 individual Project participants from various industries in Tamil Nadu and

Karnataka states. The power generated is being supplied to the southern grid or wheeled for captive consumption.

3 DATA AND PARAMETERS

3.1 Data and Parameters Available at Validation

Data Unit / Parameter:	EFy
Data unit:	tCO2/MWh
Description:	combined margin emission factor of Southern grid
Source of data:	Calculated from published data of CEA, Version 4, October 2008
Value applied:	0.9269
Purpose of the data:	Baseline emission factor of the grid to which the generated electricity is supplied / replaced
Any comment:	The value is fixed ex-ante for entire crediting period

3.2 Data and Parameters Monitored

For Tamil Nadu Data and parameters monitored

In Tamil Nadu, all the WTGs have individual main meter from the electricity board. The net electricity supplied from the WTGs is arrived directly from this import/ export meter (main meter) by the electricity board and this can be directly read from the invoice of electricity board. Thus, there is only a single monitoring parameter used in the monitoring.

Data Unit / Parameter:	EGy
Data unit:	MWh
Description:	Net electricity supplied to grid by the project activity
Source of data:	Total of the readings from the main meter installed by State Electricity Board at individual WTGs under this project activity
Description of measurement methods and procedures to be applied:	Metering system for the project activity consists of one main (tri-vector) meter of accuracy class 0.5. Net electricity supplied to grid will be measured through meter readings of this two-way export/import meter installed by TNEB. The procedures for metering and meter reading will be as per the

	provisions of the power purchase agreement. Regular monitoring on the power generation is also done through the Central Monitoring System (for Suzlon WTGs) by the O&M agency.
Frequency of monitoring/recording:	Monthly
Value monitored:	230062.95
Monitoring equipment:	meters are tri-vector meters of 0.5s accuracy class
QA/QC procedures to be applied:	Regular calibration of all the meters will be undertaken as per the PPA terms and faulty meters will be duly replaced immediately with information to concerned Authority.
Calculation method:	NA
Any comment:	The monitoring records will be archived for whole Crediting period + 2 years

For Karnataka Data and parameters monitored

Data Unit / Parameter:	Total Energy (TEGy)
Data unit:	MWh
Description:	Total electricity generated by the project activity (i.e. Export)
Source of data:	Joint Meter Readings taken at the metering points. Please note that the value of Net electricity supplied to Grid (EGy) is used for the purpose of estimating emission reductions.
Description of measurement methods and procedures to be applied:	Each WTG is connected to an electricity substation measuring system having a dedicated main meter and a check meter. The meters are sealed and are in the custody of CESC Mysore/ HESCOM.17 Utility officials in the presence of representative/s of project proponent take the readings (Joint Meter Readings) of the meters on a monthly basis. Joint meter reading of one metering point gives the readings of each wind turbine connected to that metering point. While taking JMR, it is possible to record electrical parameters such as export, import etc. JMR gives the readings of both main meter and check meter separately. For each parameter, there is an initial reading and a final reading. In case of electricity exported, initial reading gives the meter reading of 'Export' at the first day of the previous month whereas; final reading gives the meter reading of 'Export' at the first day of the present month. The difference between initial and final reading gives the 'Export' for the last month.

	Total electricity generated (or exported) by the project activity is arrived at by adding the 'Export' readings of all metering points of the project activity.
Frequency of monitoring/recording:	Monthly
Value monitored:	24618.87
Monitoring equipment:	meters are tri-vector meters of 0.2s accuracy class
QA/QC procedures to be applied:	The readings of main meter are cross-checked against the readings of check meter. In case of failure/error in the main meter, readings of check meter will be considered and the main meter will be replaced/calibrated immediately by CESC Mysore /HESCOM officials.
Calculation method:	NA
Any comment:	Data are archived both electronically & on paper. Log records will be maintained for two years from the end of the crediting period.

3.3 Description of the Monitoring Plan

Monitoring plan for the state of Tamil Nadu

The data to be monitored is the net generation of electricity supplied to the grid. The Project has individual main meter at each WTG installed and owned by the State electricity board. These meters are tri-vector meters of 0.5s accuracy class. The meters are sealed by the electricity board and meet the Indian and regional electricity authority's standards. The reading of these individual main meters is used for arriving at the monthly generation of the respective WTG. The main meter owned by the state electricity board will be calibrated by TNEB officials, according to the frequency and the maintenance schedule as per the TNEB procedures and the PPA signed with the PP or as per the UNFCCC guidelines (paragraph 12.c, EB- 41 Annex- 20). The daily generation details of individual WTG will be maintained at the wind farms in respective wind farm's electricity meter log books by the O&M team. The reading from the main meter (JMR) is recorded on monthly basis by the official from the state electricity board in the presence of a representative of the PP. The receipt of the sales to grid is cross-checked with the data recorded by the central monitoring system for each individual meter to avoid any differences. The Joint Meter Readings (JMR) taken will be sent to individual PP every month. Each PP will then raise an invoice to the Tamil Nadu Electricity Board with respect to the electricity exported to the grid by the WTG(s). The same data will be used for the emission reduction calculation.

The project proponents have undertaken an operation and maintenance agreement with the supplier of the wind turbines i.e. Suzlon and Vestas. The performance of the mills, safety in operation and scheduled /breakdown maintenances are organized and monitored by the contractor. So the authority and responsibility of O&M lies with the contractor. The entire operations of the WTGs of Suzlon make are monitored continuously with the help of the Central

Monitoring System (CMS) for each WTG by M/s. Suzlon Infrastructure Services Ltd. The total electricity generation will also be cross checked with the invoices raised for the particular month. All the relevant data & reports for maintaining accuracy in future monitoring and reporting of GHGs emission reduction is with Sapthagiri Distilleries Private Limited (SDPL).

Monitoring Plan for the state of Karnataka

For the WTGs in Karnataka, there is one common meter installed at metering site (at the electricity board sub-station, for metering electricity dispatch from project activity WTGs along with a group of WTGs at the site). The metering equipment is electronic trivector system.

Procedure for Monitoring and Recording

The JMR taken at one metering point will give the readings of each WEG connected to that metering point. With a main meter & a check meter installed at each metering point, the JMR taken at any one metering point will give readings of both main meter and check meter. However, it is reading of the main meter which is considered for calculations. The readings of main meter are cross-checked against the readings of check meter. In case of failure/error in the main meter, readings of check meter will be considered and the main meter will be replaced/ calibrated immediately by electricity board officials.

Both Main & Check meter monitor all possible electrical parameter such as export, import etc. The meters monitor & record these parameters independently. The meters also display an initial reading and a final reading for each parameter that is being monitored. For example, if we need to calculate the amount of electricity supplied/exported by all WTGs connected to a particular metering point for the month of September 2008, the initial reading of 'Export' displayed by the main meter should be subtracted from the final reading of the meter. With initial reading being the meter reading of 'Export' as on 1 Sept 08 at 0:00 hrs. and the final reading being the meter reading of 'Export' as on 1 Oct 08 at 0.00hrs, the difference between initial and final reading will give the exact units exported during the month of September 2008. Bulk meter installed at sub-station is mainly for determining transmission loss (or line loss). It also gives the total electricity exported and imported by all the wind turbines connected to the sub-station.

Invoices are raised based on the joint meter readings taken at each metering point as well as at the respective sub-stations. Invoice copy thus provides details of export, import, transmission loss & net generation. However, payments are made on the basis of the net electricity supplied to the grid.

The monitoring instruments owned by the state electricity board will be calibrated by KPTCL officials, according to the frequency and the maintenance schedule as per the KPTCL procedures and the PPA signed with the PP or as per the UNFCCC guidelines (paragraph 12.c, EB- 41 Annex- 20).

Purpose of monitoring: The purpose of an efficient monitoring procedure is to record the real and measurable emission reduction as a result of the project and to avail the revenues they accrue. The project team is also responsible for calculation of actual creditable emission reduction in the most transparent and relevant manner.

Roles and responsibilities: The roles and responsibilities of various officials at the plant site are explained in detail under section 3.4.

Parameter to be monitored: With respect to the project the only parameters that requires a continuous monitoring is the amount of electricity (EGy in GWh) that is supplied by the project to the grid. Metering system for the project consists of one main (trivector) meter of accuracy class 0.2. Net electricity supplied to grid will be measured through meter readings of the two-way export/ import meter installed by TNEB and KSEB. The procedures for metering and meter reading will be as per the provisions of the power purchase agreement (weekly meter readings will be taken by the WTG operator and monthly Net electricity dispatch reports will be collected at the individual client's Head offices).

4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

According to the approved methodology ACM0002 (Version 10)

Emission Reductions are calculated as:

$$ER_y = BE_y - PE_y - L_y$$

Where:

BE_y: Baseline Emissions in year y (t CO₂e/yr)

PE_y: Project Emissions in year y (t CO₂e/yr)

L_y: Leakage Emissions in year y (t CO₂e/yr)

Estimation of Baseline Emissions

Baseline emissions (BE_y in tCO₂) due to displacement of grid electricity is calculated as the product of the Baseline Emissions Factor (EF_y in tCO₂/MWh) calculated as described below, times the electricity supplied by the project to the grid (EG_y - EG_{baseline} in MWh), over the crediting period.

$$BE_y = EGPJ, y \times EF, Grid, CM, y$$

Where:

BE_y: Baseline emissions in year y (tCO₂/yr.)

EG_y: Electricity supplied by the project to the grid (MWh)

EG_{baseline}: Baseline electricity supplied to the grid in the case of modified or retrofit facilities (MWh). For new power plants this value is taken as zero. As this is a new power plant this is zero for the project.

EF_y: Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system”

According to the tool the baseline emission coefficient determination is detailed in section 2.4

Details of Baseline data:

Data of Operating and Build Margin for the three financial years from 2005-06 to 2007-08 has been obtained from – The CO₂ Baseline Database for the Indian Power Sector Ministry of Power: Central Electricity Authority (CEA) Version 4 Dated: October 2008

The detailed excel sheet is available at:

<http://www.cea.nic.in/planning/c%20and%20e/Government%20of%20India%20website.htm>

Parameter	Description	Value	Unit
EGPJ,y	Electricity supplied by the project to the grid	255281.83	MWh
EF _{grid,CM,y}	Combined margin CO ₂ emission factor for grid connected power generation	0.9269	tCO ₂ e/MWh

$$\begin{aligned}
 BE_y &= 255281.83 \times 0.9269 \\
 &= 2,36,633
 \end{aligned}$$

4.2 Project Emissions

The project involves harnessing of wind energy and its conversion to electricity. Hence according to ACM0002, there will be no project emissions in the project (PE_y = 0).

4.3 Leakage

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

(LE_y = 0).

4.4 Summary of GHG Emission Reductions and Removals

Year	Estimation of project emissions (tonnes of CO ₂ e)	Estimation of baseline emissions (tonnes of CO ₂ e)	Estimation of leakage (tonnes of CO ₂ e)	Estimation of Overall emission reductions (tonnes of CO ₂ e)
2006	0	40798	0	40798
2007	0	55535	0	55535
2008	0	66414	0	66414
2009	0	73885	0	73885
Total (tonnes of CO ₂ e)	0	2,36,633	0	2,36,633

Comparison between estimated and actual emission reduction

As per the registered VCS-PD estimated reduction for the period of 1/ 04/ 2006 to 31/12/2009 is 312329 tCO₂e whereas, the actual emission reduction achieved during the period 1/ 04/ 2006 to 31/12/2009, which is 2,36,633 tCO₂e and this is lower than expected. This is because the actual PLF achieved by the WTGs during this monitoring period is lower than expected PLF mentioned in the registered VCS-PD. Therefore, the actual generation is lower than estimated generation which has resulted in lower emission reductions.

5 ADDITIONAL INFORMATION

Net Electricity supplied to Grid by individual Sponsor

S.No.	Name of Project Participant	Capacity	HTSC No.	Total Net Electricity generation (MWh)	VCUs
1	POPULAR CARBONIC PRIVATE LIMITED	0.35	1144	2518	2334
2	PREMIER CARBONIC PRIVATE LIMITED	0.35	1145	2304	2135
3	ADTECH SYSTEMS LIMITED	0.60	D 126	2364	2192
4	AMBICA AGARBATHIES AND AROMA INDUSTRIES LTD	0.75	1198	4292	3979

5	BEST ENGINEERS PUMPS PRIVATE LIMITED	1.25	1939	8080	7489
6	CETHAR VESSELS (P) LIMITED	1.25	1648	9883	9161
7	Cotton Blossom(India) Pvt td	0.75	1416	5713	5296
		0.75	2048	4140	3838
8	ESKAY DESIGN	1.25	1982	7567	7014
9	Jayashree Cables and Conductors Private Limited	0.60	D.127	2412	2236
10	LAKSHMI EXPORT	0.35	637	1873	1736
		0.225	474	1499	1390
11	MADRAS HYDRAULIC HOSE (P) LTD.	0.75	1162	4830	4478
12	MOD FORGE PVT LTD.	0.75	1952	4479	4152
13	Nagammal Mills	0.75	2126	4518	4188
		0.75	1626	5581	5174
14	NUTECH ASSOCIATES	1.25	1198	9374	8689
		1.50	H - 21	11359	10529
		0.75	1412	5544	5139
15	PURE CARBO GASES	0.25	580	1264	1172
16	RAJ RANGA TEXTILES PVT LTD	1.25	986	9452	8762
17	SRI RAMIAH SPINNERS LTD	0.35	2390	1118	1036
18	ROYAL CLASSIC MILLS (P) LTD.,	0.75	1937	4511	4182
19	SARANYA GARMENTS PVT. LTD	0.75	2124	3783	3506
20	V.T. Switchgears & Transformers	0.60	PS 52	4066	3769
21	SUEERA ALLOYS GLOBAL PVT LTD.	1.25	989	9916	9191
22	TIRUPUR EXPORT KNIT WEAR	1.00	1269	7302	6768

		1.50	1270	10440	9677
		1.50	1271	10657	9878
23	Shanti Gears	1.25	1624	9674	8968
		1.25	1963	9183	8513
		1.25	2020	7105	6586
		1.50	2417	9147	8479
24	SRI KUMRAN WIND ENERGY PVT LTD	1.25	1725	8999	8341
		1.25	1739	8044	7456
		1.25	1726	8323	7715
25	SHREE SANTOSH MEENAKSHI TEXTILES	0.50	624	3281	3041
		0.50	628	3179	2946
		0.50	420	4457	4131
		0.50	421	4528	4197
		0.225	542	1467	1360
		0.225	543	1549	1436
26	ANSAN TEXTILES	0.225	609	1132	1049
27	SRI SANTOSH GARMENTS	0.225	473	818	758
28	Nutech Prasiddhi Consortium	1.50	H - 20	9194	8522
29	Oriental Extractions Pvt Ltd.	0.35	1206	2103	1950
		0.35	1201	2262	2097
TOTAL(TN+KA)		38.275			236633

Annex – 1 Metering Details

SL NO	HTSC NO.	Meter Make	Meter Serial No.	Date of Commissioning	Calibration Dates			
					I	II	III	IV
1	1144	Elster	04 865378	23/3/2006	23-03-2007	22-03-2008	23-03-2009	22-03-2010
2	1145	Elster	04 862563	23/3/2006	23-03-2007	22-03-2008	23-03-2009	22-03-2010
3	D 126	Elster	05 934786	28/9/2007	28-09-2008	27-09-2009	28-09-2010	
4	1198	Elster	04 808376	26/3/2005	26-03-2006	25-03-2007	25-03-2008	26-03-2009
5	1939	Elster	04 804715	14/7/2006	15-07-2007	15-07-2008	14-07-2009	14-07-2010
6	1648	Elster	04 805389	22/3/2006	22-03-2007	22-03-2008	23-03-2009	22-03-2010
7	1416	Elster	04 677386	28/09/2006	28-09-2007	27-09-2008	28-09-2009	28-09-2010
8	2048	Elster	04 953836					
9	1982	Elster	04 869861	29/8/2006	29-09-2007	28-09-2008	27-09-2009	28-09-2010
10	D.127	Elster	05 901 357	28/9/2007	28-09-2008	27-09-2009	28-09-2010	-
11	637	Elster	04 865 521	23/3/2007	23-03-2008	23-03-2009	22-03-2010	-
12	474	Elster	04 719 985	23-09-2006	24-09-2007	24-09-2008	23-09-2009	24-09-2010
13	1162	Elster	04 894802	22-03-2006	23-03-2007	22-03-2008	23-03-2009	22-03-2010
14	1952	Elster	04 985108	19/7/2006	18-07-2007	19-07-2008	19-07-2009	19-07-2010
15	2126	Elster	04 901434	30/12/2006	30-12-2007	30-12-2008	30-12-2009	29-12-2010
16	1626	Elster	04 978941	20-03-2006	20-03-2007	20-03-2008	20-03-2009	18-03-2010
17	1198	Elster	04 954092	31/03/2006	31-03-2007	31-03-2008	30-03-2009	31-03-2010

18	H - 21	Elster	06 634931	30/3/2007	31-03-2008	30-03-2009	31-03-2010	-
19	1412	Elster	04 987234	27/9/2005	27-09-2006	26-09-2007	27-09-2008	28-09-2009
20	580	Elster	04 726560	24/9/2006	24-09-2007	24-09-2008	24-09-2009	24-09-2010
21	986	Elster	04 939 211	29/09/2005	29-09-2006	29-09-2007	29-09-2008	29-09-2009
22	2390	Elster	04 932773	22/8/2007	22-08-2008	22-08-2009	22-08-2010	-
23	1937	Elster	04 995603	07-07-2006	08-07-2007	07-07-2008	07-07-2009	07-07-2010
24	2124	Elster	04 923676	30/12/2006	30-12-2007	30-12-2008	30-12-2009	29-12-2010
25	PS 52	Elster	06 605117	31/3/2006	31-03-2007	31-03-2008	30-03-2009	31-03-2010
26	989	Elster	04 888 403	29/09/2005	28-09-2006	29-09-2007	29-09-2008	29-09-2009
27	1269	Elster	02 377827	31/3/2005	30-03-2006	31-03-2007	31-03-2008	30-03-2009
28	1270	Elster	02 377911		30-03-2006	31-03-2007	31-03-2008	30-03-2009
29	1271	Elster	04 691102		30-03-2006	31-03-2007	31-03-2008	30-03-2009
30	1624	Elster	02 331760	20/3/2006	20-03-2007	21-03-2008	20-03-2009	20-03-2010
31	1963	Elster	02 331867	18/8/2006	18-08-2007	17-08-2008	19-08-2009	18-08-2010
32	2020	Elster	02 674885	11/08/2006	11-08-2007	11-08-2008	11-08-2009	25-09-2010
33	2417	Elster	02 331254	14/08/2007	14-08-2007	15-08-2008	14-08-2009	14-09-2010
34	1725	Elster	04 745484	29/03/2006	29-03-2007	29-03-2008	29-03-2009	28-03-2010
35	1739	Elster	04 863479					
36	1726	Elster	04 745364					
37	624	Elster	04 848 809	16/3/2007	16-03-2008	16-03-2009	15-03-2010	-
38	628	Elster	04 886 195	28/4/2007	28-04-2008	28-04-2009	26-04-2010	-

39	420	Elster	04 841 786	16/3/2007	16-03-2008	16-03-2009	15-03-2010	-
40	421	Elster	04 948 968	30/3/2005	30-03-2006	30-03-2007	30-03-2008	30-03-2009
41	542	Elster	04 762 415	30/03/2006	30-03-2007	30-03-2008	30-03-2009	28-03-2010
42	543	Elster	04 747 395					
43	609	Elster	04 924 704	02-06-2007	02-06-2008	02-06-2009	03-06-2010	-
44	473	Elster	04 948 762	24/9/2005	24-09-2006	24-09-2007	23-09-2008	23-09-2009
45	H-20	Elster	06 625095	30/3/2007	30-03-2008	30-03-2009	28-03-2010	-
46	1206	Elster	04 804564	02/03/2006	02-03-2007	02-03-2008	02-03-2009	03-03-2010
47	1201	Elster	04 821 467					