POSITIVE CLIMATE CARE 4.67 MW BUNDLED GRID CONNECTED WIND POWER PROJECT ACTIVITY IN JAISALMER, RAJASTHAN, INDIA

Document Prepared by Positive Climate Care Private Limited

Project Title	Positive Climate Care 4.67 MW Bundled Grid connected Wind Power Project Activity in Jaisalmer, Rajasthan, India
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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The project activity involves the development and operation of grid connected wind-based electricity generation facilities involving installation of 7 Wind Electric Generators (WEGs) with an aggregate installed capacity of 4.67 MW located at District Jaisalmer in the state of Rajasthan. The generated electricity is being supplied to the State Electricity Utility Rajasthan Vidyut Prasaran Nigam Limited (RVPNL). The Rajasthan State grid forms part of the NEWNE Regional Grid of India (Now Indian Grid) which depends mainly upon fossil fuels and this project contributes to reduced greenhouse gas emissions caused by reliance on fossil fuels.

The list of project proponents (PP), capacity of WEGs, their location and respective project commissioning date is tabulated below:

Table 1: Details of the project activity

S. No.	Name of Project Proponent	Location	WTG make and Capacity	Project Commissioning Date
1.	**Rajesh Construction Co. Pvt. Ltd.**	Village – Akal, District – Jaisalmer, State - Rajasthan	Suzlon Energy Ltd, 1.25 MW Suzlon Energy Ltd, 1.25 MW	October 31st, 2003
2.	**Savla Twisters Pvt. Ltd**	Village –Soda-Mada, District – Jaisalmer, State - Rajasthan	Suzlon Energy Ltd, 1.25 MW	April 30th, 2004
3.	**Vijay Industries**	Village –Themdarai, District – Jaisalmer, State - Rajasthan	Enercon (India) Ltd, 0.23 MW Enercon (India) Ltd, 0.23 MW	March 29th, 2003
4.	**Saurabh Agrotech Pvt. Ltd.**	Village –Themdarai, District – Jaisalmer, State – Rajasthan	Enercon (India) Ltd, 0.23 MW Enercon (India) Ltd, 0.23 MW	March 29th, 2003

Table 2: Past Auditing Record

Audit Type	Period	Program	VVB Name	Number of years
Validation	16-11-2009	VCS	Perry Johnson Registrars CDM Inc.	

1st Verification	01-April-2006-- 30-June-2009	VCS	Perry Johnson Registrars CDM	3.25 Years
2nd Verification	01-July-2009-- 01-October-2012	VCS	URS Verification Pvt. Ltd.	3.25 Years
3rd Verification	02-October-2012-- 31-March-2016	VCS	TUV SUD South Asia Private Limited	3.5 Years
Total				10 Years

1.2 Sectoral Scope and Project Type

Sectoral Scope: 01 Energy Industries (Renewable/ Non-renewable sources)

Project Type: I – Renewable Energy Projects

Methodology: AMS I.D. Ver 14: Grid connected renewable electricity generation

The project activity is not a grouped project.

1.3 Project Proponent

Organization name	**M/s Rajesh Construction Company Private Limited (formerly Rajesh Construction Co. Ltd.)**
Contact person	Meenakshi Jain
Title	Authorized Representative
Address	R B House, M.I.D.C. Cross Road “B” Off Andheri Kurla Road, Andheri (E), Mumbai, Maharashtra, India, 400059.
Telephone	+91-141-4003572
Email	Jain.minaxi@gmail.com

Organization name	**M/s Savla Twisters Pvt. Ltd.**
Contact person	Meenakshi Jain

Title	Authorized Representative
Address	202 A, “PASHAKA” Ring Road, Surat, Gujarat, India, 395002
Telephone	+91-141-4003572
Email	Jain.minaxi@gmail.com

Organization name	**M/s Vijay Industries**
Contact person	Meenakshi Jain
Title	Authorized Representative
Address	D-47, Hanuman Nagar, Vaishali Nagar, Jaipur, Rajasthan, India, 302021
Telephone	+91-141-4003572
Email	Jain.minaxi@gmail.com

Organization name	**M/s Saurabh Agrotech Pvt. Ltd.**
Contact person	Meenakshi Jain
Title	Authorized Representative
Address	Plot 20-21 & 22, Old Industrial Area, Alwar, Rajasthan, India, 301001
Telephone	+91-141-4003572
Email	Jain.minaxi@gmail.com

1.4 Other Entities Involved in the Project

Organization name	**M/s Positive Climate Care Private Limited**
Role in the Project	Project Consultant
Contact person	Ms. Meenakshi Jain

Title	Founder & Managing Director
Address	307-407, The Gajraj Apartment, C-68, Sarojini Marg, C-Scheme, Jaipur- 302001-Rajasthan, India
Telephone	+91-9413203573, +91-141-4003572
Email	meenakshi@positiveclimatecare.com; jain.minaxi@gmail.com

1.5 Project Start Date

The project start date for this project activity is 29/03/2003.This is the day on which first WTG was commissioned under this project activity.

1.6 Project Crediting Period

Project Crediting Period Start Date : 1st April 2006

Project Crediting Period End Date : 31st March 2016

Total Number of Years : 10 Years

1.7 Project Location

The project activity is located at District Jaisalmer in the state of Rajasthan. The nearest railway station is Jaisalmer Junction and the nearest airport is at Jodhpur.

The geographical coordinates and location details of all the WEGs associated with the project activity are given below:

Table 3 : Location Details of individual WEGs

S. No.	Project Promoter	WEG Capacity (Location number)	North - Latitude	East - Longitude
1.	**Rajesh Construction Co. Pvt. Ltd.**	1.25 MW (J-137)	N26° 46' 37.5"	E71° 05' 33.5"
		1.25 MW (J-132)	N26° 46' 52.0"	E71° 05' 41.5"
2.	**Savla Twisters Pvt. Ltd**	1.25 MW (J-224)	N26° 40' 55.1"	E70° 52' 49.6"
3.	**Vijay Industries**	0.23 MW (VIKL-01)	N26° 45' 24.5"	E70° 53' 25.7"
		0.23 MW (VIKL-02)	N26° 45' 30.5"	E70° 53' 25.8"
4.	**Saurabh Agrotech Pvt. Ltd.**	0.23 MW (SAPL-01)	N26° 45' 48.5"	E70° 53' 27.1"
		0.23 MW (SAPL-02)	N26° 45' 52.4"	E70° 53' 25.4"

1.8 Title and Reference of Methodology

The project has applied UNFCCC Clean Development Mechanism (CDM) approved small scale methodology AMS I. D Version 14.

Title: Grid connected renewable electricity generation

Reference: AMS I. D (Version 14, Sectoral Scope: 01, EB 48)

1.9 Participation under other GHG Programs

Project Proponents have not created GHG emission reduction or removal credits through any other GHG Program for any form of environmental credit for the period which will be accounted under VCS. Project Proponent Savla Twisters Pvt. Ltd. registered their project with the Chicago Climate Exchange up to March 2006 with the project registration number 1875 and the title 1.25 MW Grid connected Wind Power Project by Savla Twisters Pvt. Ltd., Jaisalmer, Rajasthan, India. To avoid double counting of credits, PP provided the validator an undertaking during the validation of the VCS project that they would only apply for GHG emission reduction credits under one GHG programme for a specific monitoring period. The same undertaking has been provided to Verifier.

1.10 Other Forms of Credit and Supply Chain (Scope 3) Emissions

Emission Trading Programs and Other Binding Limits: The project is not a part of any emission trading program.

Other Forms of Environmental Credit: The project has not created any other form of environmental credit.

1.11 Sustainable Development Contributions

The project is not part of any nationally stated sustainable development priorities. However, the project proponents believe that the project activity has contributed to the sustainable development as discussed below according to the indicators stipulated by Ministry of Environment Forests & Climate Change, Government of India for sustainable development in its interim approval guidelines for host country approval eligibility criteria for Clean Development Mechanism (CDM) projects:

1. Social well being

The main purpose of the project activity is to generate electrical energy through sustainable means using wind power resources, to bank and wheel through the NEWNE Regional Grid (Now Indian Grid) for wheeling as well as sale to Grid and thereby contributing to climate change mitigation efforts. The project is located in the rural areas of Jaisalmer and implementation of the project activity has contributed positively towards the 'Sustainable Development' in this region.

- Employment opportunities have increased marginally for both skilled and unskilled labours in the surrounding areas due to the implementation of the project. The increased income level has improved the living standards of the people. Local people in the surrounding villages have been employed for civil and mechanical

works during the implementation of the project and permanent employment for some local people was given by O&M contractors (Enercon, Suzlon Energy Ltd.) for operation and maintenance of the wind farm.

- Electricity facilities are improved comparatively and expected to improve further in future due to the upcoming installations in the villages. Due to implementation of the project activity, certain developments have occurred in the surrounding area and the stakeholders admitted that the project activity has contributed towards the improvement of the socio-economic conditions of the local area to some extent.
- Other infrastructural and communication facilities in the area have also improved considerably due to the project.

2. Economic well being

- The project activity generates various employment opportunity which leads to increase in their daily wages in the local area.
- Use of wind energy for electricity generation instead using fossil fuels like coal reduces stress on the economy of the country.
- The project activity has led to a good investment to a developing region which otherwise would not have happened in the absence of project activity. The generated electricity is led into the regional grid through local grid, thereby improving the grid frequency and availability of electricity to the local consumers (villagers & sub-urban habitants) which will provide new opportunities for industries and economic activities to be setup in the area thereby resulting in greater local employment, ultimately leading to overall development.

3. Environmental well being

- There is considerable wind resource in Rajasthan that has not been harnessed. This Project acts as a catalyst towards sustainable wind energy development in the state of Rajasthan.
- The wind energy-based electricity generation helps in less fossil-fuel burning in the system and thus less GHG emissions in the atmosphere. Use of renewable energy source (wind energy) also helps in conservation of natural resources like coal and petroleum fuels.
- As wind power projects produce no end products in the form of solid waste (ash etc.), they address the problem of solid waste disposal encountered by most other sources of power.
- Also, as there is no fuel used for electricity generation, there aren't any effluents discharged into the water.

4. Technological well being

The technology used in the power plant is proven and safe. Increased interest in wind energy projects will further push R&D efforts by technology providers to develop more efficient and better machinery in future.

Table 4: Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
Sequential row number	*SDG Target number*	*Number and text of SDG indicator or, if no official SDG indicator is applicable, user-defined indicator*	*Indicate the project's contribution to the SDG Indicator (implemented activities to increase or decrease)*	*Brief description of the quantifiable impact of the project's activities related to the SDG indicator, during the monitoring period.*	*Brief description of the cumulative quantifiable impact of the project's activities related to the SDG indicator, over the project lifetime.*
1)	7.2	7.2.1 Renewable energy share in the total final energy consumption	The project has a total capacity of 4.67 MW. The project uses wind energy for electricity generation which is a renewable source of energy.	The project generated 14602279 kWh (See Annex 1) of clean electricity using wind energy during the monitoring period.	Considering average yearly electricity generation of 4172080 kWh/year for this monitoring period and considering the whole life period (25 Years) of this project, the project is capable of generating 104302 MWh of clean electricity from wind energy.

2)	8.0	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	During the construction and operation of the project activity, the project activity helps to create both immediate and long-term job possibilities. The project fosters safe and secure working conditions while protecting workers' rights	The project proponents through their respective O&M contractors improve the capacity of the people by providing on-the-job training to direct and indirect employees involved in the project activity.	Given that this project activity involves seven windmills, it has given the locals in the surrounding areas numerous jobs.
3)	13.0	Tonnes of greenhouse gas emissions avoided or removed	The project includes a wind-powered electricity producing plant that helps directly to the reduction of GHG emissions into the atmosphere.	The project during the monitoring period has prevented release of 13233 tCO_2e in the atmosphere.	Taking into account the average annual emission reductions of 3781 tCO_2e/year for this monitoring period, the project is capable of removing 94525 tCO_2e GHG from the atmosphere during the course of its 25-year lifespan.

2 SAFEGUARDS

2.1 No Net Harm

Since the project uses wind energy to produce electricity, no hazardous gases or GHG are released during project operations, negating any potential negative effects on the environment or the economy. The project activity does not pose a threat overall.

2.2 Local Stakeholder Consultation

The local stakeholder meeting was carried out for the project activity and the details of the same can be referred from the registered VCS PD.

As a part of continuous feedback from stakeholders, the PP has also placed a grievance register onsite where-in, the stakeholders can put down their complaint and the same if found genuine are addressed immediately. There are no negative comments received for the project during the current monitoring period.

2.3 AFOLU-Specific Safeguards

Not Applicable.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

On March 29, 2003, the first WTG of the project activity was put into operation. The project activity has been running at its full capacity i.e. 4.67 MW since April 30, 2004.

No major changes /modifications in the plant equipment has been taken place as on date.

All the wind turbines are running smoothly during the current monitoring period.

Information on events that may impact the GHG emission reductions or removals and monitoring: There have been no events, which has affected the GHG emission reductions and monitoring. Overall the project is running successfully.

Further, there are no changes to the project participant or the project activity during the monitoring period.

Project WTGs commissioning date have been provided under section 1.1 of the MR.

3.2 Deviations

3.2.1 Methodology Deviations

There are no methodology deviations

3.2.2 Project Description Deviations

There are no project description deviations

3.3 Grouped Projects

This is not a grouped project activity

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	**$EF_{OM,y}$**
Data unit	tCO_2/MWh
Description	Operating Margin emission factor for NEWNE Grid (Now Indian Grid)
Source of data	Referred from CO_2 Baseline Database for the Indian Power Sector, User Guide, Version 4 dated October 2008, released by the Central Electricity Authority, Ministry of Power, Government of India
Value applied	1.0090
Justification of choice of data or description of measurement methods and procedures applied	Central Electricity Authority, the National Authority on electrical systems in India has calculated the emission factors using the 'Tool to calculate the emission factor for an electricity system' Ver 01.1 and publishes their result in User's Guide of 'CO_2 Baseline Database for The Indian Power Sector'
Purpose of Data	For the calculation of the Baseline Emission
Comments	This database is an official publication of Government of India for the purpose of CDM baselines. It is based on most recent data available to the Central Electricity Authority and hence considered authentic. As the calculation of baseline emission has been done ex ante its value will remain fixed for the entire crediting period.
Data / Parameter	**$EF_{BM,y}$**

Data unit	tCO_2/MWh
Description	Build Margin emission factor for NEWNE Grid (Now Indian Grid)
Source of data	Referred from CO_2 Baseline Database for the Indian Power Sector, User Guide, Version 4 dated October 2008, released by the Central Electricity Authority, Ministry of Power, Government of India
Value applied	0.5977
Justification of choice of data or description of measurement methods and procedures applied	Central Electricity Authority, the National Authority on electrical systems in India has calculated the emission factors using the 'Tool to calculate the emission factor for an electricity system' Ver 01.1 and publishes their result in User's Guide of 'CO_2 Baseline Database for The Indian Power Sector'
Purpose of Data	For the calculation of the Baseline Emission
Comments	This database is an official publication of Government of India for the purpose of CDM baselines. It is based on most recent data available to the Central Electricity Authority and hence considered authentic. As the calculation of baseline emission has been done ex ante its value will remain fixed for the entire crediting period.

Data / Parameter	**EF_y**
Data unit	tCO_2/MWh
Description	Combined Margin CO_2 emission factor for the proposed project activity
Source of data	Calculated using values from "User's Guide - CO_2 Baseline Database for Indian Power Sector" Version 4.0 October 2008 published by the Central Electricity Authority, Ministry of Power, Government of India.
Value applied	0.9062
Justification of choice of data or description of measurement methods and procedures applied	The combined margin emissions factor is calculated as follows: **$EF_y = EF_{OM,y} * W_{OM} + EF_{BM,y} * W_{BM}$** Where: $EF_{BM,y}$ = Build margin CO_2 emission factor in year *y* (tCO_2/MWh) $EF_{OM,y}$= Operating margin CO_2 emission factor in year *y* (tCO_2/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 75% W_{BM}= Weighting of build margin emissions factor (%) = 25%

Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

4.2 Data and Parameters Monitored

Data / Parameter	**EG_y**
Data unit	kWh
Description	The Total Net Electricity supplied to the DISCOM(s).
Source of data	Calculated as the difference between total export and import of electricity by the WTGs. Break up sheet is prepared by O & M Contractor on the basis of Joint Meter Reading report of the complete Wind Farm and submitted to Project Proponent.
Description of measurement methods and procedures to be applied	The Joint Meter Reading is taken by representative of O&M contractor employed by the project proponent and representatives of state electricity utility at common evacuation system. Since this meter is common to project activity and other wind turbines that are not under this project activity, the apportioning of net electricity is done based on electricity generated from individual wind turbines. O & M contractor provides the break up sheet to project proponents. Based on this break up, limited to total energy export, the power purchase from the individual WTGs is calculated for the purpose of payment. The total net electricity generated from the project activity is calculated as the summation of the annual net electricity generation of the wind turbines in the project activity.
Frequency of monitoring/recording	Monthly
Value monitored	02/10/12 – 31/12/12 = 512684 01/01/13 – 31/12/13 = 5063479 01/01/14 – 31/12/14 = 4246411 01/01/15 – 31/12/15 = 4205543 01/01/16 – 31/03/16 = 574162 **Total = 14602279** (see Annex-1)
Monitoring equipment	Main and Backup meters Accuracy class: 0.2s

QA/QC procedures to be applied	The generated electricity is measured through a two-step procedure wherein the first metering is carried out at the controller of the machine. The second metering is carried out at grid interconnection point wherein the Joint Meter Reading (JMR) is carried out on first day of every month in presence of the representatives of the project proponent & the state electricity utility (RVPNL/ DISCOM). This JMR is used for calculation of the amount of electricity pumped into the grid against which the utility makes the payment to the project proponent. The meter located at the grid sub-station are sealed, maintained and calibrated by the state electricity utility. The electronic controllers are self-calibrated to ensure and maintain online system diagnostics.
Purpose of the data	Calculation of baseline emissions
Calculation method	Formula to arrive net electricity export to grid is given by: Net Export kWh = Export kWh – Import kWh
Comments	The data will be archived in paper and electronically for two years after the end of the last crediting period.

Data / Parameter	**EG_{Export}**
Data unit	kWh
Description	The Total Electricity Exported by the WEG units.
Source of data	As reported in monthly electricity joint meter readings for the WEGs of the project by the DISCOM. Break up sheet is prepared by O & M Contractor on the basis of Joint Meter Reading report of the complete Wind Farm and submitted to Project Proponent.
Description of measurement methods and procedures to be applied	The electricity exported by the each individual WEG of the project activity is measured using the export meter installed at the Grid substation (GSS). The total exported electricity units from the project activity are calculated as the summation of the monthly measured exported electricity data of the wind turbines in the project activity.
Frequency of monitoring/recording	Monthly
Value monitored	02/10/12 – 31/12/12 = 527141 01/01/13 – 31/12/13 = 5087771 01/01/14 – 31/12/14 = 4269254

	01/01/15 – 31/12/15 = 4226332 01/01/16 – 31/03/16 = 582861 **Total = 14693359** (see Annex-1)
Monitoring equipment	Main and Backup meters Accuracy class: 0.2s
QA/QC procedures to be applied	Annual calibration of all the meters is undertaken at required intervals and faulty meters are duly replaced immediately.
Purpose of the data	Calculation of baseline emissions
Calculation method	Measured value
Comments	The data will be archived in paper and electronically for two years after the end of the last crediting period.

Data / Parameter	**EG_{Import}**
Data unit	kWh
Description	The Total Electricity Imported by the WEG units.
Source of data	As reported in monthly electricity joint meter readings for the WEGs of the project by the DISCOM. Break up sheet is prepared by O & M Contractor on the basis of Joint Meter Reading report of the complete Wind Farm and submitted to Project Proponent.
Description of measurement methods and procedures to be applied	The electricity imported by the each individual WEG of the project activity is measured using the import meter installed at the GSS. The total imported electricity units from the project activity are calculated as the summation of the monthly measured imported electricity data of the wind turbines in the project activity.
Frequency of monitoring/recording	Monthly
Value monitored	02/10/12 – 31/12/12 = 14457 01/01/13 – 31/12/13 = 24292 01/01/14 – 31/12/14 = 22843 01/01/15 – 31/12/15 = 20789 01/01/16 – 31/03/16 = 8699 **Total = 91080** (see Annex-1)

Monitoring equipment	Main and Backup meters Accuracy class: 0.2s
QA/QC procedures to be applied	Annual calibration of all the meters is undertaken at required intervals and faulty meters are duly replaced immediately.
Purpose of the data	Calculation of baseline emissions
Calculation method	Measured value
Comments	The data will be archived in paper and electronically for two years after the end of the last crediting period.

Data / Parameter	**$EG_{y\ Controller}$**
Data unit	kWh/year
Description	Electricity Generation at WTG measured and as reported in the joint meter reading reports signed by representatives of state electricity board.
Source of data	Controller reading at each WTG
Description of measurement methods and procedures to be applied	As per standard operating procedure manual of the technology supplier/ O & M contractor.
Frequency of monitoring/recording	Daily
Value monitored	-
Monitoring equipment	Electronic controller
QA/QC procedures to be applied	The electronic controllers are self-calibrated to ensure and maintain online system diagnostics.
Purpose of the data	Calculation of baseline emissions
Calculation method	Measured value
Comments	The data will be archived in paper and electronically for two years after the end of the last crediting period.

4.3 Monitoring Plan

As per the requirements of methodology, monitoring shall consist of metering the net electricity generated by the renewable technology. The project activity leads to mitigation of GHG due to the substitution of fossil fuel generated power in the baseline with zero GHG emitting wind based power project. The monitoring of the emission reduction will be

carried out by measuring the net electricity supplied to the grid by the project activity with the help of electronic meters installed at GSS.
Calibration / Maintenance of Measuring and Analytical Equipment

1. The generated electricity is purchased by the state electricity utility (Jaipur/Jodhpur DISCOM) through RVPNL grid of Rajasthan. The meters are therefore calibrated, sealed and managed by the state electricity utility (RVPNL/DISCOM).

2. The primary recording of the electricity fed to the state utility grid is carried out jointly at the incoming feeder of the state power utility (RVPNL). Individual WTGS are connected to feeder, which is further connected to Grid substation via transformers. For billing purpose, readings are taken from Electricity Board (EB) meters installed at the feeder and then apportioning of the electricity is done for individual WTG.

3. The joint measurements are carried out once in a month in presence of both parties (the developer's representative and officials of the state power utility).

    - The RVPNL/DISCOM and the developer's representative jointly read the Metering System on the first (1^{st}) day of every month at the interconnection point.

    - As per the monitoring methodology, the electricity generated by wind turbines is metered by Electronic Meter. There are two energy meters installed at the grid substation. These energy meters are the export import meters. Since, these meters are installed at the receiving end; they thus absorb the losses from the generation point (wind machine controller) until the grid interconnection point (substation). These losses include the line losses from point of generation to the point of metering and the transformer losses (losses due to stepping up of generation voltage to meet grid discipline and transmission losses until interconnection point).

    - In the event that the main metering system is not in service as a result of maintenance, repairs or testing, then the backup metering system is used during the period the main metering system is not in service.

The RVPNL/DISCOM seals the main metering system and the backup metering system in the presence of representatives of Power Producer/Developer.

When the main metering system and/or back up metering system and/or any component thereof is found to be outside the acceptable limits of accuracy or otherwise not functioning properly, it is repaired, re-calibrated or replaced as soon as possible by the Power Developer or by the RVPNL/DISCOM.

RVPNL/DISCOM ensures that metering system is tested for accuracy at least once in a year and report is furnished along with joint meter reading.

Any meter seal(s) can be broken only by the authorised officer of RVPNL's / DISCOM's in the presence of representatives of power producer/Developer, whenever the main metering system or the backup metering system is to be inspected, tested, adjusted, repaired or replaced.

The monitoring at WEG end: each WEG is equipped with an integrated electronic controller meter. These meters are connected to the Central Monitoring Station (CMS) of the entire wind farm through a wireless Radio Frequency (RF) network (SCADA). The generation data of individual machine can be monitored as a real-time entity at CMS. The snapshot of generation on the last day of every calendar month is kept as record both in electronic as well as printed (paper) form.

Calibration of Controllers: In case of both the EPC contractors, Suzlon & Enercon, the individual WTG has installed panel meters and no calibration is required for these meters as there is a quality procedure incorporated in software itself.

Suzlon- SCS Controller is a micro-processor based intelligent controller which has been specially designed for control of wind turbines. It uses a Woodward Multi-function Relay that has three current inputs from CT and three direct voltage inputs (690 Volts). The analog values of current/ voltage is converted into digital signal internally using A/D Converters at very high sampling rate. A software program reads these values and displays instantaneous parameters such as voltage, current, power factor, kVAh, kVArh and kWh. These instantaneous values are then time integrated and displayed / stored. Woodward relay is having no display and needs special protocol to view energy readings as this relay is communicating digital signal through special communication protocol, hence, it is not possible to calibrate, Moreover, turbine cannot run without this relay hence it cannot be removed for calibration during operation.

Enercon- The individual WEG come with installed panel meters and no calibration has been carried out for these meters. There is quality procedure incorporated in software, which react to deviations higher than range of 10 units. Main processor unit of WEG compares the converter output & energy meter output if difference is greater than 20kw for 1 hour, machine stops with fault status 62:07- diff. P-actual/Kwh measurement. Replacement of the WEGs panel meter with new one solves the problem.

Calibration of Meters:

Reference: Calibration reports in respect of Main and Backup metering equipment

Table 5: Meter Calibrations

Rajesh Constructions Co. Pvt. Ltd., 2.5 MW			
S. No.	**Reference Reports**	**Main meter**	**Backup meter**
1.	Calibration Certificate	Sr. No. MSB10311 Certificate No. C&I/CAL/S/12-03/103 Date of Calibration: 15-03-2012	Sr. No. MSB10312 Certificate No. C&I/CAL/S/12-03/111 Date of Calibration: 15-03-2012

2.	Calibration Certificate	Sr. No. MSB10311 Certificate No. C&I/CAL/S/12-12/253 Date of Calibration: 19-12-2012	Sr. No. MSB10312 Certificate No. C&I/CAL/S/12-12/257 Date of Calibration: 19-12-2012
3.	Calibration Certificate	Sr. No. MSB10311 Certificate No. YMPL/253744/56326 Date of Calibration: 14-01-2014	Sr. No. MSB10312 Certificate No. YMPL/253744/56325 Date of Calibration: 14-01-2014
4.	Calibration Certificate	Sr. No. MSB10311 Certificate No. C&IJ/CAL/S/15-01/110 Date of Calibration: 13-01-2015	Sr. No. MSB10312 Certificate No. C&IJ/CAL/S/15-01/109 Date of Calibration: 13-01-2015
5.	Calibration Certificate	Meter Sr. No. MSB10311 replaced on 18.4.17 to new meter Sr. No. RJB90208 Meter test report dated 05.04.17 Main meter 2: Sr. No. RJB85056 Certificate No. DCPL/CAL/17-18/201 Date of Calibration: 08-05-2017	Meter Sr. No. MSB10312 replaced on 18.4.17 to new meter Sr. No. RJB90209 Meter test report dated 05.04.17

Savla Twisters Pvt. Ltd., 1.25 MW			
S. No.	**Reference Reports**	**Main meter**	**Backup meter**
1.	Calibration Certificate	T/F-1 Certificate No. C&I/CAL/S/12-03/051 Sr. No. RJB00316 Date of Calibration: 14-03-2012 T/F-2 Certificate No. C&I/CAL/S/12-03/052 Sr. No. TNU00956 Date of Calibration: 14-03-2012 T/F-3 Certificate No. C&I/CAL/S/12-03/056 Sr. No. TNU00957 Date of Calibration: 14-03-2012	T/F-1 Certificate No. C&I/CAL/S/12-03/050 Sr. No. RJB00317 Date of Calibration: 14-03-2012 T/F-2 Certificate No. C&I/CAL/S/12-03/055 Sr. No. RJU00327 Date of Calibration: 14-03-2012 T/F-3 Certificate No. C&I/CAL/S/12-03/057 Sr. No. RJB00318 Date of Calibration: 14-03-2012

2.	Calibration Certificate	T/F-1 Certificate No. C&I/CAL/S/12-12/050 Sr. No. RJB00316 Date of Calibration: 14-12-2012 T/F-2 Certificate No. C&I/CAL/S/12-12/052 Sr. No. TNU00956 Date of Calibration: 14-12-2012 T/F-3 Certificate No. C&I/CAL/S/12-12/081 Sr. No. TNU00957 Date of Calibration: 14-12-2012	T/F-1 Certificate No. C&I/CAL/S/12-12/049 Sr. No. RJB00317 Date of Calibration: 14-12-2012 T/F-2 Certificate No. C&I/CAL/S/12-12/051 Sr. No. RJU00327 Date of Calibration: 14-12-2012 T/F-3 Certificate No. C&I/CAL/S/12-12/082 Sr. No. RJB00318 Date of Calibration: 14-12-2012
3.	Calibration Certificate	T/F-1 Certificate No. YMPL /253765/56571 Sr. No. RJB00316 Date of Calibration: 20-01-2014 T/F-2 Certificate No. YMPL /253761/56536 Sr. No. TNU00956 Date of Calibration: 19-01-2014 T/F-3 Certificate No. YMPL /253761/56268 Sr. No. TNU00957 Date of Calibration: 19-01-2014	T/F-1 Certificate No. YMPL /253765/56572 Sr. No. RJB00317 Date of Calibration: 20-01-2014 T/F-2 Certificate No. YMPL /253761/56537 Sr. No. RJU00327 Date of Calibration: 19-01-2014 T/F-3 Certificate No. YMPL /253765/56573 Sr. No. RJB00318 Date of Calibration: 20-01-2014
4.	Calibration Certificate	T/F-1 Certificate No. C&IJ/CAL/S/15-01/171 Sr. No. RJB00316 Date of Calibration: 16-01-2015 T/F-2 Certificate No. C&IJ/CAL/S/15-01/173 Sr. No. TNU00956 Date of Calibration: 16-01-2015	T/F-1 Certificate No. C&IJ/CAL/S/15-01/172 Sr. No. RJB00317 Date of Calibration: 16-01-2015 T/F-2 Certificate No. C&IJ/CAL/S/15-01/152 Sr. No. RJU00327 Date of Calibration: 15-01-2015

		T/F-3 Certificate No. C&IJ/CAL/S/15-01/151 Sr. No. TNU00957 Date of Calibration: 15-01-2015	T/F-3 Certificate No. C&IJ/CAL/S/15-01/150 Sr. No. RJB00318 Date of Calibration: 15-01-2015
5.	Calibration Certificate	T/F-1 Certificate No. C&IJ/CAL/S/16-04/007 Sr. No. RJB00316 Date of Calibration: 15-04-2016 T/F-2 Certificate No. C&IJ/CAL/S/16-04/018 Sr. No. TNU00956 Date of Calibration: 15-04-2016 T/F-3 Certificate No. C&IJ/CAL/S/16-04/017 Sr. No. TNU00957 Date of Calibration: 15-04-2016	T/F-1 Certificate No. C&IJ/CAL/S/16-04/008 Sr. No. RJB00317 Date of Calibration: 15-04-2016 T/F-2 Certificate No. C&IJ/CAL/S/16-04/016 Sr. No. RJU00327 Date of Calibration: 15-04-2016 T/F-3 Certificate No. C&IJ/CAL/S/16-04/009 Sr. No. RJB00318 Date of Calibration: 15-04-2016
6.	Test Reports	Meter Sr. No. RJB00316 replaced on 18.4.17 to new meter Sr. No. RJB90212 Meter Sr. No. TNU00956 replaced on 25.4.17 to new meter Sr. No. RJB90210	Meter Sr. No. RJB00317 replaced on 18.4.17 to new meter Sr. No. RJB90213 Meter Sr. No. RJU00327 replaced on 25.4.17 to new meter Sr. No. RJB90211

Vijay Industries - 0.46 MW			
S. No.	**Reference Reports**	**Main meter-1**	**Main meter-2**
1.	Calibration Certificate	Dated – 28.03.2012 (Certificate No. YMPL/214135/41756) Sr. No. TNU00946 Date of Calibration: 19.03.2012	Dated – 28.03.2012 (Certificate No. YMPL/214135/41759) Sr. No. TNU00945 Date of Calibration: 19.03.2012

Saurabh Agrotech Pvt. Ltd. - 0.46 MW			
S. No.	**Reference Reports**	**Main meter-1**	**Main meter-2**

1.	Calibration Certificate	Dated – 28.03.2012 (Certificate No. YMPL/214135/41756) Sr. No. TNU00946 Date of Calibration: 19.03.2012	Dated – 28.03.2012 (Certificate No. YMPL/214135/41759) Sr. No. TNU00945 Date of Calibration: 19.03.2012

Class of Accuracy= 0.2s
The copy of these reports has been provided to Verifier.

Operation & Management structure to Monitor Emission Reductions

To ensure trouble free operations and efficient generations through all the wind turbines, PPs have entered into a comprehensive Operation and Maintenance agreement with the manufactures of the turbines for a period of 10 years. The contractor Suzlon & Enercon, under the O&M contract with PPs, are responsible for the operation and maintenance of the project activity for the entire crediting period.

The authority and responsibility of project management as well as registration, monitoring, and supervising O & M activities lies with PPs. They have formulated a Project Team to ensure proper and continuous monitoring of the performance of turbines and generation of power. The wind power project abides and will abide by all regulatory and statutory requirements as prescribed under the state and central laws and regulations. The project team is delegated with the responsibility of monitor and document the electricity generated and also safekeeping of the recorded data. The project team is also responsible for calculation of actual creditable emission reduction in the most transparent and relevant manner. The same has been outlined as follows:

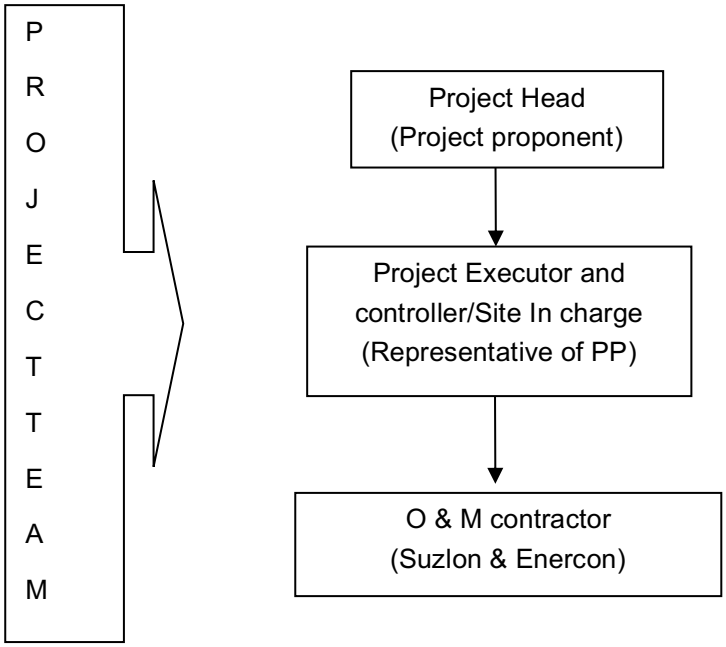

Figure 1: Project Monitoring Team

Roles & Responsibilities of Project monitoring team are as follows:

Designation	Responsibilities
Project Head (Project proponent)	• Registration • Project Execution
Project Executor and Controller (Representative of PP at Jaipur office of O&M contractor)	• Recording • Verification • Storage of Data
Site In charge (Representative of PP at Jaisalmer office of O&M contractor)	• Operation, Monitoring and Verification of Data • Data Recording • Storage of data
Operation and Maintenance Contractor	• Suzlon Infrastructure Services Limited (for Rajesh Construction Co. Pvt. Ltd. (2.5 MW), Savla Twisters Pvt. Ltd. (1.25 MW.) • Enercon India Ltd. (for Vijay Industries (0.46 MW) & Saurabh Agrotech Pvt. Ltd.(0.46 MW)

PP's representatives maintain an accurate and up-to-date operating log at the project site with records of:

i. 24 Hours logs of real and reactive power generation, frequency, transformer tap position, bus voltage(s), Main meter and other meter readings and any other data mutually agreed.

ii. Any unusual conditions found during operation/inspections.

Procedure adopted by Suzlon/Enercon to get Joint meter reading/ Credit report is summarised below:

Initially, joint readings of all Energy Meters fixed at Substation are taken at 01st of every month with RVPNL, DISCOM & the PP's representatives-Suzlon / Enercon personnel. Then, JMR Readings are prepared in formats specified by DISCOM. These reading are signed and audited from representatives of RVPNL, DISCOM and Suzlon/Enercon personnel.

Then Customer wise generation bifurcation & Individual Credit Reports are prepared. Break up sheet provides the value of Export, Import and Net Export of energy. Afterwards, these Credit Reports are handed over to Project Proponent who in turn raises the invoices and submit to DISCOM for payment.

In case of Vijay Industries and Saurabh Agrotech (Enercon WTG), Enercon personnel raise the invoices to DISCOM on behalf of Investors.

The apportioning of the electricity in break up sheet is done as per the following method-

Break up of Energy Export (in break up sheets)

$$= \frac{\text{EB meter Export (JMR)}}{\text{Total generation from all Controllers of WTGs connected to Feeder}} \times \text{Individual Controller Reading}$$

Break up of Energy Import (in break up sheets)

= EB meter Import (JMR) X Individual Controller Reading
Total generation from all Controllers of WTGs connected to Feeder

Net Export = Export – Import

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

The baseline emissions are estimated as the product of the electricity generated by the project activity and the ex-ante Emission factor of the regional electricity grid.

$$\mathbf{BE_y = EG_y \ X \ EF_y}$$

Where,

EF_y is the ex-ante baseline emission factor for the year y

EG_y is the net electricity generation for the year y

The baseline emission factor for the project activity has been calculated ex ante under section 2.4 of the approved PD as 0.9062 tCO_2e /MWh.

5.2 Project Emissions

Being a renewable and clean energy project, the project emissions (PEy) during operation are **considered zero**.

5.3 Leakage

Leakage emissions are **considered zero**, as there is neither transfer of energy generating equipment from another activity nor the existing equipment are transferred to another activity.

5.4 Net GHG Emission Reductions and Removals

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:

$$\mathbf{ER_y = BE_y – PE_y - L_y}$$

Where

ER_y = Emission reductions in year y (tCO_2 /y)

BE_y = Baseline Emission in year y (tCO_2 /y)

PE_y = Project Emission in year y (tCO_2 /y)

LE_y = Leakage Emission in year y (tCO_2 /y)

As for wind power project activity the leakages & project emissions are considered as zero, the emission reductions of the project activity are equal to the baseline emissions.

Hence, $ER_y = BE_y = EG_y \times EF_y$

= 14602 (MWh) X 0.9062 (tCO_2e /MWh)

= 13233 tCO_2e

Thus, the project activity has achieved 13233 tCO_2e Emission Reductions (ER_y) during the monitoring period 02/10/2012 – 31/03/2016.

Table 6: Year wise Emission Reductions

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
Year 2012 (02-October-2012-- 31-December-2012)	465	0	0	465
Year 2013 (01-January-2013-- 31-December-2013)	4589	0	0	4589
Year 2014 (01-January-2014-- 31-December-2014)	3848	0	0	3848
Year 2015 (01-January-2015-- 31-December-2015)	3811	0	0	3811
Year 2016 (01-January-2016-- 31-March -2016)	520	0	0	520
Total	**13233**	**0**	**0**	**13233**

Table 7: Project Proponent and Vintage wise Emission Reductions

Vintage Year / Project Proponent	2012	2013	2014	2015	2016	Total
Rajesh Construction Co. Pvt. Ltd.	223	2057	1267	1137	206	**4890**
Vijay Industries	54	629	597	626	78	**1984**
Saurabh Agro Tech Pvt. Ltd.	57	605	587	630	44	**1923**
Savla Twisters Pvt. Ltd.	131	1298	1397	1418	192	**4436**
Total	**465**	**4589**	**3848**	**3811**	**520**	**13233**

Ex-ante emissions reductions/ removals	Achieved emissions reductions/r emovals	Percent difference	Justification for the difference
29026	13233	54.41%	The total emission reductions achieved during this monitoring period is 13,233 tCO2e which is underachieved in comparison to the estimated reduction due the fact that the electricity generation from wind power projects is seasonal and not equally distributed throughout the year. A wind power project generates power from the wind resource, and thus variation in wind resource basically determines the variation in wind power generation which is beyond the control of project proponent. Further, wind generation is a cyclic process with peaks and lows. Hence, this deviation is justified.

APPENDIX I: MONTHLY DATA

RAJESH CONSTRUCTION CO. PVT. LTD. (2.5 MW)					
Year	**Month**	**Export(kWh)**	**Import(kWh)**	**Net Export(kWh)**	**ER (tCO_2e)**
2012	Oct	66859	4261	62598	57
	Nov	53822	3363	50459	46
	Dec	134124	1730	132394	120
	Sub Total 1	**254805**	**9354**	**245451**	**223**
2013	Jan	83887	3070	80817	73
	Feb	171298	437	170861	155
	Mar	131017	1606	129411	117
	Apr	161697	1806	159891	145
	May	306327	986	305341	277
	Jun	521314	938	520376	472
	Jul	320063	340	319723	290
	Aug	275281	395	274886	249
	Sep	177176	530	176646	160
	Oct	77501	2330	75171	68
	Nov	30480	1222	29258	27
	Dec	27776	849	26927	24
	Sub Total 2	**2283817**	**14509**	**2269308**	**2057**
2014	Jan	93039	892	92147	84
	Feb	125144	1207	123937	112
	Mar	92726	1253	91473	83
	Apr	94734	1235	93499	85
	May	77173	301	76872	70
	Jun	91686	40	91646	83
	Jul	31949	57	31892	29
	Aug	322756	425	322331	292
	Sep	221188	220	220968	200
	Oct	123358	2673	120685	109
	Nov	54104	2270	51834	47
	Dec	83845	2738	81107	73
	Sub Total 3	**1411702**	**13311**	**1398391**	**1267**
2015	Jan	114888	1958	112930	102
	Feb	187141	1368	185773	168
	Mar	91219	919	90300	82
	Apr	71812	753	71059	64
	May	145225	290	144935	131
	Jun	178799	845	177954	161
	Jul	79816	245	79571	72
	Aug	75002	41	74961	68
	Sep	113472	654	112818	102

	Oct	85857	593	85264	77
	Nov	67586	805	66781	61
	Dec	54902	2096	52806	48
	Sub Total 4	**1265719**	**10567**	**1255152**	**1137**
2016	Jan	24442	1171	23271	21
	Feb	101740	2066	99674	90
	Mar	106109	1394	104715	95
	Sub Total 5	**232291**	**4631**	**227660**	**206**
	Total (1+2+3+4+5)	**5448334**	**52372**	**5395962**	**4890**
	VIJAY INDUSTRIES (0.46 MW)				
Year	**Month**	**Export(kWh)**	**Import(kWh)**	**Net Export(kWh)**	**ER (tCO_2e)**
2012	Oct	14370	271	14099	13
	Nov	11609	199	11410	10
	Dec	34494	155	34339	31
	Sub Total 1	**60473**	**625**	**59848**	**54**
2013	Jan	24835	264	24571	22
	Feb	40697	32	40665	37
	Mar	36117	102	36015	33
	Apr	46041	130	45911	42
	May	87147	61	87086	79
	Jun	131331	81	131250	119
	Jul	106115	52	106063	96
	Aug	69660	25	69635	63
	Sep	74141	52	74089	67
	Oct	28126	157	27969	25
	Nov	23689	134	23555	21
	Dec	27536	134	27402	25
	Sub Total 2	**695435**	**1224**	**694211**	**629**
2014	Jan	31153	47	31106	28
	Feb	31905	98	31807	29
	Mar	38142	60	38082	35
	Apr	33043	170	32873	30
	May	56050	150	55900	51
	Jun	146589	11	146578	133
	Jul	94838	48	94790	86
	Aug	82928	62	82866	75
	Sep	72302	26	72276	65
	Oct	35341	193	35148	32
	Nov	15975	153	15822	14
	Dec	21834	195	21639	20
	Sub Total 3	**660100**	**1213**	**658887**	**597**
2015	Jan	27973	131	27842	25

	Feb	44866	84	44782	41
	Mar	42066	81	41985	38
	Apr	55074	120	54954	50
	May	81663	85	81578	74
	Jun	68403	151	68252	62
	Jul	120475	237	120238	109
	Aug	91470	7	91463	83
	Sep	57955	97	57858	52
	Oct	50360	158	50202	45
	Nov	30632	84	30548	28
	Dec	21132	208	20924	19
	Sub Total 4	**692069**	**1443**	**690626**	**626**
2016	Jan	20676	214	20462	19
	Feb	29436	235	29201	26
	Mar	36465	121	36344	33
	Sub Total 5	**86577**	**570**	**86007**	**78**
	Total (1+2+3+4+5)	**2194654**	**5075**	**2189579**	**1984**
	SAURABH AGROTECH (P) LTD. (0.46 MW)				
Year	**Month**	**Export(kWh)**	**Import(kWh)**	**Net Export(kWh)**	**ER (tCO_2e)**
2012	Oct	14752	278	14474	13
	Nov	13530	232	13298	12
	Dec	35547	160	35387	32
	Sub Total 1	**63829**	**670**	**63159**	**57**
2013	Jan	22274	237	22037	20
	Feb	39206	30	39176	36
	Mar	34985	98	34887	32
	Apr	44036	125	43911	40
	May	82588	58	82530	75
	Jun	130078	80	129998	118
	Jul	99185	49	99136	90
	Aug	70185	25	70160	64
	Sep	72206	50	72156	65
	Oct	27388	153	27235	25
	Nov	21758	123	21635	20
	Dec	24597	119	24478	22
	Sub Total 2	**668486**	**1147**	**667339**	**605**
2014	Jan	52474	78	52396	47
	Feb	33092	101	32991	30
	Mar	33483	52	33431	30
	Apr	31840	164	31676	29
	May	52060	139	51921	47

	Jun	143413	11	143402	130
	Jul	114467	58	114409	104
	Aug	86121	64	86057	78
	Sep	73175	26	73149	66
	Oct	28463	156	28307	26
	Nov	0	0	0	0
	Dec	-	-	-	-
	Sub Total 3	**648588**	**849**	**647739**	**587**
2015	Jan	22742	107	22635	21
	Feb	47035	89	46946	43
	Mar	40993	79	40914	37
	Apr	56710	124	56586	51
	May	87807	92	87715	79
	Jun	69634	154	69480	63
	Jul	110933	218	110715	100
	Aug	92017	7	92010	83
	Sep	63448	106	63342	57
	Oct	54308	171	54137	49
	Nov	30672	85	30587	28
	Dec	20260	199	20061	18
	Sub Total 4	**696559**	**1431**	**695128**	**630**
2016	Jan	17770	183	17587	16
	Feb	12645	101	12544	11
	Mar	18183	60	18123	16
	Sub Total 5	**48598**	**344**	**48254**	**44**
	Total (1+2+3+4+5)	**2126060**	**4441**	**2121619**	**1923**

SAVLA TWISTERS PVT. LTD. (1.25 MW)					
Year	**Month**	**Export(kWh)**	**Import(kWh)**	**Net Export(kWh)**	**ER (tCO_2e)**
2012	OCT	37835	1628	36207	33
	NOV	29016	1391	27625	25
	DEC	81183	789	80394	73
Sub total (1)		**148034**	**3808**	**144226**	**131**
2013	JAN	44996	1324	43672	40
	FEB	85150	250	84900	77
	MAR	86589	837	85752	78
	APR	47366	567	46799	42
	MAY	206202	465	205737	186
	JUN	257241	271	256970	233
	JUL	187400	235	187165	170
	AUG	179474	7	179467	163
	SEP	171220	372	170848	155
	OCT	60049	943	59106	54

	NOV	47676	1091	46585	42
	DEC	66670	1050	65620	59
Sub total (2)		**1440033**	**7412**	**1432621**	**1298**
2014	JAN	85581	635	84946	77
	FEB	67883	691	67192	61
	MAR	85683	914	84769	77
	APR	55519	479	55040	50
	MAY	161463	587	160876	146
	JUN	264477	32	264445	240
	JUL	245369	185	245184	222
	AUG	232190	314	231876	210
	SEP	153560	144	153416	139
	OCT	84717	1229	83488	76
	NOV	55054	1069	53985	49
	DEC	57368	1191	56177	51
Sub total (3)		**1548864**	**7470**	**1541394**	**1397**
2015	JAN	60624	805	59819	54
	FEB	122741	707	122034	111
	MAR	102378	506	101872	92
	APR	57461	348	57113	52
	MAY	157584	327	157257	143
	JUN	179966	782	179184	162
	JUL	294886	833	294053	266
	AUG	215933	223	215710	195
	SEP	129714	468	129246	117
	OCT	130476	605	129871	118
	NOV	74977	489	74488	68
	DEC	45245	1255	43990	40
Sub total (4)		**1571985**	**7348**	**1564637**	**1418**
2016	JAN	50767	1082	49685	45
	FEB	75655	1284	74371	67
	MAR	88973	788	88185	80
Sub total (5)		**215395**	**3154**	**212241**	**192**
	Total (1+2+3+4+5)	**4924311**	**29192**	**4895119**	**4436**
	Total ALL	**14693359**	**91080**	**14602279**	**13233**

APPENDIX II: SUMMARY

Year	Project Proponent	Export kWh	Import kWh	Net kWh	ER (tCO_2e)
2012	Rajesh Construction	254805	9354	245451	223
	Vijay Industries	60473	625	59848	54
	Saurabh Agro Tech	63829	670	63159	57
	Savla Twisters	148034	3808	144226	131
	Total i	**527141**	**14457**	**512684**	**465**
2013	Rajesh Construction	2283817	14509	2269308	2057
	Vijay Industries	695435	1224	694211	629
	Saurabh Agro Tech	668486	1147	667339	605
	Savla Twisters	1440033	7412	1432621	1298
	Total ii	**5087771**	**24292**	**5063479**	**4589**
2014	Rajesh Construction	1411702	13311	1398391	1267
	Vijay Industries	660100	1213	658887	597
	Saurabh Agro Tech	648588	849	647739	587
	Savla Twisters	1548864	7470	1541394	1397
	Total iii	**4269254**	**22843**	**4246411**	**3848**
2015	Rajesh Construction	1265719	10567	1255152	1137
	Vijay Industries	692069	1443	690626	626
	Saurabh Agro Tech	696559	1431	695128	630
	Savla Twisters	1571985	7348	1564637	1418
	Total iv	**4226332**	**20789**	**4205543**	**3811**
2016	Rajesh Construction	232291	4631	227660	206
	Vijay Industries	86577	570	86007	78
	Saurabh Agro Tech	48598	344	48254	44
	Savla Twisters	215395	3154	212241	192
	Total v	**582861**	**8699**	**574162**	**520**
	Total (i+ii+iii+iv+v)	**14693359**	**91080**	**14602279**	**13233**