

**MONITORING REPORT FORM (F-CDM-MR)**
Version 02.0**MONITORING REPORT**

| | |
|--|--|
| Title of the project activity | Bundled Wind Power Project in Jamnagar, Gujarat |
| Reference number of the project activity | 4964 |
| Version number of the monitoring report | 1 |
| Completion date of the monitoring report | 08/10/2012 |
| Registration date of the project activity | 15/07/2011 |
| Monitoring period number and duration of this monitoring period | 01/09/2011-30/09/2012 |
| Project participant(s) | Vish Wind Infrastructure LLP J. N. Investment & Trading Co. Private Limited |
| Host Party(ies) | India |
| Sectoral scope(s) and applied methodology(ies) | Energy industries (renewable/ non-renewable sources). Grid Connected Renewable Electricity Generation AMS I.D, EB 54 Version 16, Sectoral Scope 01 |
| Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD | 20,086 |
| Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period | 17,868 |

SECTION A. Description of project activity**A.1. Purpose and general description of project activity**

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- (a) *Purpose of the project activity and the measures taken for GHG emission reductions or net anthropogenic GHG removals by sinks;*

The purpose of the project activity is to utilize renewable wind energy for generation of electricity. The project activity replaces anthropogenic emissions of greenhouse gases (GHG's) into the atmosphere, which is estimated to be approximately 18,541 tCO₂e per year, by displacing the equivalent amount of electricity generation through the operation of existing fuel mix in the grid comprising mainly fossil fuel based power plants and future capacity expansions connected to the grid.

In the absence of the project activity the equivalent amount of electricity would have been generated from the connected/ new power plants in the 'Northern Eastern Western North-Eastern' NEWNE grid, which are/ will be predominantly based on fossil fuels¹. Whereas the electricity generation from operation of Wind Energy Convertors (WEC's) is emission free. As per the applicable methodology the baseline scenario for the project activity is the grid based electricity system, which is also the pre-project scenario

The proposed project is a bundled project activity which involves commissioning and operation of 12 Wind Energy Convertor (WECs) of 0.8 MW capacities with a total installed capacity of 9.6 MW. The machines are Enercon E-53 make. The project activity will assist the sustainable growth of the region by providing clean and green electricity to the state electricity grid. The bundled project activity consists of 12 WECs:

| Name | No. of WECs |
|--|-------------|
| Vish Wind Infrastructure LLP | 8 |
| J. N. Investment & Trading Co. Private Limited | 4 |

- (b) *Brief description of the installed technology and equipments;*

The project activity involves supply, erection, commissioning and operation of 12 machines of rated capacity 800 KW each. The machines are Enercon E-53 make. Enercon (India) Ltd (EIL) is the turbine supplier and is the operations and maintenance contractor.

- (c) *Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.);*

The WECs under the project activity were commissioned between 27/09/2010 and 30/09/2010. The expected operational lifetime of the project is for 20 years. The project activity was registered as CDM project on 15/07/2011. The first monitoring period is from 01/09/2011 to 30/09/2012.

- (d) *Total GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period.*

The total emission reductions achieved under this monitoring period (01/09/2011 to 30/09/2012) is 17,578 tCO₂.

A.2. Location of project activity

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- (a) *Host Party(ies);*

India

- (b) *Region/State/Province, etc.;*

NEWNE Region/Gujarat State

(c) *City/Town/Community, etc.;*

The Project is spread across villages of Jamnagar District of Gujarat state in India.

(d) *Physical/ Geographical location.*

The Project is located in Jamnagar district in the Indian State of Gujarat. Nearest airport and railway station are at Jamnagar city which is located at a distance of approximately 60 kms from the project activity site. The longitude and latitude details of WECs are given below:

| Sr. No. | Project Owner | Unique WEC ID No. | Latitude | | | Longitude | | |
|---------|--|--------------------|----------|------|------|-----------|------|------|
| | | | Deg. | Min. | Sec. | Deg. | Min. | Sec. |
| 1 | J. N. Investment & Trading Co. Private Limited | EIL/800/10-11/1822 | 21 | 59 | 20.8 | 70 | 13 | 19 |
| 2 | | EIL/800/10-11/1823 | 21 | 59 | 12.7 | 70 | 13 | 19.7 |
| 3 | | EIL/800/10-11/1824 | 21 | 58 | 42.7 | 70 | 13 | 11.1 |
| 4 | | EIL/800/10-11/1825 | 21 | 56 | 1.8 | 70 | 11 | 4.1 |
| 5 | Vish Wind Infrastructure LLP | EIL/800/10-11/1887 | 21 | 56 | 13.4 | 70 | 11 | 11.5 |
| 6 | | EIL/800/10-11/1888 | 21 | 56 | 19.1 | 70 | 11 | 3 |
| 7 | | EIL/800/10-11/1889 | 21 | 59 | 23.7 | 70 | 6 | 53.3 |
| 8 | | EIL/800/10-11/1890 | 21 | 59 | 48.6 | 70 | 6 | 17.5 |
| 9 | | EIL/800/10-11/1891 | 21 | 58 | 57.6 | 70 | 10 | 21.9 |
| 10 | | EIL/800/10-11/1892 | 21 | 59 | 6.3 | 70 | 10 | 19.9 |
| 11 | | EIL/800/10-11/1893 | 21 | 59 | 23.3 | 70 | 10 | 14.4 |
| 12 | | EIL/800/10-11/1891 | 21 | 59 | 29.8 | 70 | 10 | 8.6 |

A.3. Parties and project participant(s)

| Party involved (host) indicates a host Party) | Private and/or public entity(ies) project participants (as applicable) | Indicate if the Party involved wishes to be considered as project participant (Yes/No) |
|--|---|--|
| Government of India (Host) | 1. Vish Wind Infrastructure LLP 2. J.N. Investment & Trading Co. Private Limited | No |

A.4. Reference of applied methodology

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- (a) Project Type(I): '*Renewable Energy Project Activities*',
Category I.D '*Grid Connected Renewable Electricity Generation*' and
Reference: AMS I.D, EB 54 Version 16, Sectoral Scope 01.

A.5. Crediting period of project activity

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The length of the Crediting period of the project activity as per registered PDD is 10 years (Fixed). The crediting period start date is 01/09/2011 (from 01/09/2011 to 31/08/2021).

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity

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The first machine under the project activity was commissioned on 27/09/2010 and last machine under the project activity was commissioned on 30/09/2010. The project activity consists of 12 machines (800 kWh) of Enercon make E-53 totalling to a capacity of 9.6 MW.



The commissioning date for all the WECs included in the project activity is given in the table below:

| Sr. No. | Project Owner | Unique Identification No. | Commissioning Date |
|---------|--|---------------------------|--------------------|
| 1 | J. N. Investment & Trading Co. Private Limited | EIL/800/10-11/1822 | 27/09/2010 |
| 2 | | EIL/800/10-11/1823 | 27/09/2010 |
| 3 | | EIL/800/10-11/1824 | 27/09/2010 |
| 4 | | EIL/800/10-11/1825 | 27/09/2010 |
| 5 | Vish Wind Infrastructure LLP | EIL/800/10-11/1887 | 29/09/2010 |
| 6 | | EIL/800/10-11/1888 | 29/09/2010 |
| 7 | | EIL/800/10-11/1889 | 29/09/2010 |
| 8 | | EIL/800/10-11/1890 | 29/09/2010 |
| 9 | | EIL/800/10-11/1891 | 30/09/2010 |
| 10 | | EIL/800/10-11/1892 | 30/09/2010 |
| 11 | | EIL/800/10-11/1893 | 30/09/2010 |
| 12 | | EIL/800/10-11/1891 | 30/09/2010 |

The project activity involves 12-wind energy converters (WECs) of Enercon make (800 kW E-53) with internal electrical lines connecting the project activity with local evacuation facility. The WECs generates 3-phase power at 400V, which is stepped up to 33 KV. The project activity can operate in the frequency range of 47.5–51.5 Hz and in the voltage range of 400 V \pm 12.5%. The average life time of the WEC is around 20 years as per information provided by the supplier. The other salient features of the state-of art technology are:

| | |
|----------------------------|--|
| Turbine Model | Enercon E-53 |
| Rated Power | 800 kW |
| Rotor Diameter | 53 m |
| Hub Height | 75 m |
| Turbine Type | Gearless horizontal axis wind turbine with variable rotor speed |
| Power Regulation | Independent electromechanical pitch system for each blade |
| Cut in wind speed | 2.5 m/s |
| Rated wind speed | 12 m/s |
| Cut out wind speed | 28-34 m/s |
| Extreme Wind Speed | 59.5 m/s |
| Rated rotation speed | 32 rpm |
| Operating range rot. Speed | 12-29 rpm |
| Orientation | Upwind |
| No. Of Blades | 3 |
| Blade Material | Fibre Glass Epoxy reinforced with integral lightning protection |
| Gear box type | Gearless |
| Generator type | Synchronous generator |
| Braking | Aerodynamic |
| Output Voltage | 400 V |
| Yaw System | Active yawing with 4 electric yaw drives with brake motor & friction bearing |
| Tower | 74 m concrete |

Enercon (India) Ltd has secured and facilitated the technology transfer for wind based renewable energy generation from Enercon GmbH, has established a manufacturing plant at Daman in India, where along

with other components the "Synchronous Generators" using "Vacuum Impregnation" technology are manufactured.

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

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Not Applicable

B.2.2. Corrections

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Not Applicable

B.2.3. Permanent changes from registered monitoring plan or applied methodology

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Not Applicable

B.2.4. Changes to project design of registered project activity

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Not Applicable

B.2.5. Changes to start date of crediting period

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Not Applicable

B.2.6. Types of changes specific to afforestation or reforestation project activity

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Not Applicable

SECTION C. Description of monitoring system

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Approved monitoring methodology AMS-I.D. Version 16 (Para 22) Sectoral Scope: 1, by CDM – Meth Panel is proposed to be used to monitor the emission reductions.

Enercon (India) Limited is the O&M contractor for the project activity. Enercon (India) Limited will be responsible for maintaining all the monitoring data on behalf of PP in respect of the project activity. Enercon (India) Limited has implemented the management structure for managing the monitored data.

The project activity will have various clusters and each cluster has exclusive metering arrangement and the meter readings taken at these metering points will be provided by the representatives of Enercon to GEDA. These energy meters will be sealed by GEDA and will also be calibrated annually.

Enercon Substation at Sadodar has main meter(s) also known as revenue meter which is connected to wind turbines installed by the project proponent and wind turbines installed by other project owners. Gujarat Electricity Development Authority (GEDA) apportions the net electricity supplied to the grid at the Enercon substation to all the project owners after adjusting transmission loss from GETCO meters at Sadodar Substation to the meter readings taken at dedicated cluster meters of different project owners.

The meter reading is taken jointly by the representatives of Enercon and GEDA/GETCO in the form of JMR. The electricity from Enercon's substation is finally supplied to the utility's substation at Moti Paneli.

The net electricity generated by the project owners is provided by GETCO in the share certificate of electricity generated. The value of the net electricity generated by the project activity will be taken directly

by the project proponent from the share certificate provided by GETCO for calculation of emission reductions.

If during meter testing the main meter at the Enercon substation is found beyond the permissible limit of error, the meter reading will be taken from the main meter located at the utility (GETCO) substation at Moti Panelli after addition of average historical transmission losses.

If during meter testing the cluster meters found beyond the permissible limit of error, the sum of panel meter (LCS meter) readings located at each wind turbine of the project activity will be provided to GEDA for purpose of apportioning net electricity supplied to the grid. The LCS meters do not require calibration as the energy readings of electricity generated at the LCS meter is cross verified by the energy calculated by inverting system installed in the WECs. In case there is any mismatch in the energy values recorded by the LCS meter and the energy values calculated by the inverting system; the machine will stop working and generate the error report.

The apportioning procedure performed by GEDA personnel for the project activity is explained below:-

$EG_{GETCO, Export}$ = Electricity exported, as recorded by the main meter at Enercon substation

$EG_{GETCO, Import}$ = Electricity imported, as recorded by the main meter at Enercon substation

$EG_{Cluster, Export}$ = Electricity exported by the project activity, as measured at Cluster Meter

$EG_{Cluster, Import}$ = Electricity imported by the project activity, as measured at Cluster Meter

$EG_{Cluster, WF, Export}$ = Electricity exported by all the project owners connected to Enercon substation, as measured at Cluster Meter

$EG_{Cluster, WF, Import}$ = Electricity imported by all the project owners connected to Enercon substation, as measured at Cluster Meter

$EG_{BL, export, y}$ = Electricity exported by the project activity to the grid, calculated

$EG_{BL, import, y}$ = Electricity imported from the project activity to the grid, calculated

$EG_{BL, y}$ = Net Electricity exported by the project activity to the grid, calculated

Electricity Exported to the Grid by the project activity

$EG_{BL, export, y} = EG_{GETCO, Export} \times EG_{Cluster, Export} / EG_{Cluster, WF, Export}$

Electricity Imported from the Grid by the project activity

$EG_{BL, import, y} = EG_{GETCO, Import} \times EG_{Cluster, Import} / EG_{Cluster, WF, Import}$

Net Electricity Exported to the grid by the project activity

$EG_{BL, y} = EG_{BL, export, y} - EG_{BL, import, y}$

The apportioning procedure for the project activity is done based on the meters that are connected to the cluster meter of various project owners connected to substation of Enercon based on meter reading noted at Enercon substation connecting all the machines of the project activity and other project developers. The meter reading at cluster meter and the Enercon substation are directly monitored and measured on continuous basis and hence the apportioning of the electricity is based on the meter reading that are directly measured. The meter recording at cluster meters of the project activity are done on monthly basis. The panel meter (LCS meter) reading is recorded continuously by the online monitoring system.

The apportioning procedure is performed by GEDA personnel based on the data received from LCS meters & clusters meters on daily basis.

The Project is operated by Enercon (O&M contractor for the project activity) and managed by the PP.

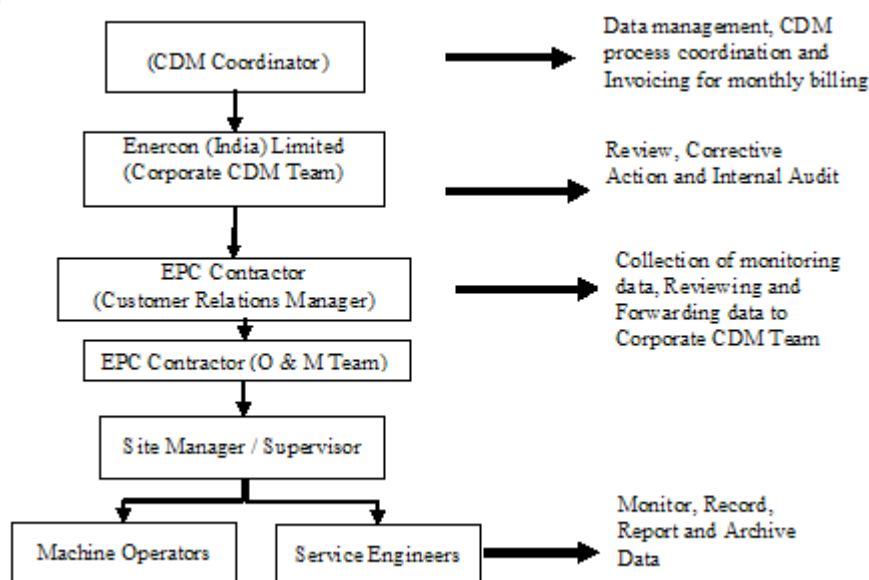
The operational and maintenance contract for the project is with Enercon. Enercon is an ISO 9001:2000 certified Quality Management system from Germanischer Lloyd. Enercon follows the documentation practices to ensure the reliability and availability of the data for all the activities as required from the identification of the site, wind resource assessment, logistics, finance, construction, commissioning and operation of the wind power project.

The accuracy of monitoring parameter is ensured by adhering to the calibration and testing of the metering equipment once each year.

The detail of calibration of meters is given in Appendix III.

Training and maintenance requirements:

Training on the machine is an essential pre-requisite, to ensure necessary safety of man and machine. Further, in order to maximize the output from the Wind Energy Converters (WECs), it is extremely essential, that the engineers and technicians understand the machines and keep them in good health. In order to ensure, that Enercon's service staff is deft at handling technical snags on top of the turbine, the necessity of ensuring that they are capable of climbing the tower with absolute ease and comfort has been established. The Enercon Training Academy provides need-based training to meet the training requirements of Enercon projects. The training is contemporary, which results in imparting focused knowledge leading to value addition to the attitude and skills of all trainees. This ultimately leads to creativity in problem solving.



The detailed monitoring plan is described below:

Meter Reading

- The net electricity supplied to the grid will be taken directly from the share certificate for net electricity generated provided by GETCO.
 - The meter reading is taken jointly at GETCO meters by representatives of Enercon and GEDA/GETCO located at Enercon substation. The GETCO meters are connected to the wind turbines of the project activity and the wind turbines of the other project owners. Therefore GETCO provides the share certificate that apportions the net electricity generated by the project owners.
 - The Cluster meters are provided exclusively to all the project owners having installed wind turbines at the wind farm. The meter readings from these meters are used by GEDA for purpose of apportioning.

Meter Testing

- The main meter at Enercon Substation will be jointly tested & calibrated once in a year.

- If during meter testing the main meter at the Enercon substation is found beyond the permissible limit of error, the meter reading will be taken from the main meter located at the utility (GETCO) substation at Moti Panelli after addition of average historical transmission losses for last quarter (03 months).
- The main meter at utility substation will also be calibrated once in each year.
- All cluster meters which are connected to the Enercon substation will be sealed by GEDA and will also be calibrated annually.
- If during meter testing any cluster meter is found beyond the permissible limit of error, the sum of LCS meter reading located at each wind turbine of that cluster will be provided to GEDA for purpose of apportioning net electricity supplied to the grid.
- The LCS meters do not require calibration as the energy readings of electricity generated at the LCS meter is cross verified by the energy calculated by inverting system installed in the WEGs. In case there is any mismatch in the energy values recorded by the LCS meter and the energy values calculated by the inverting system; the machine will stop working and generate the error report.

Data recording

- The meter recording at the main meter at Enercon substation and the cluster meters of the project activity will be done each month.
- The panel meter (LCS meter) reading is recorded continuously by the online monitoring system.
- All the monitored data will be recorded and filed electronically and in hard format for 2 years beyond the crediting period i.e. 10+2 years.

SECTION D. Data and parameters

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

| | |
|---------------------------|---|
| Data/Parameter | $EF_{grid,OM,y}$ |
| Unit | tCO ₂ e/MWh |
| Description | Operating Margin Emission Factor of NEWNE Electricity Grid |
| Source of data | “CO ₂ Baseline Database for Indian Power Sector”, version 5 published by the Central Electricity Authority, Ministry of Power, Government of India. The “CO ₂ Baseline Database for Indian Power Sector” is available at www.cea.nic.in |
| Value(s) applied | 1.00497 |
| Purpose of data | To calculate Baseline Emission. |
| Additional comment | The value is calculated on ex-ante basis and it will remain same throughout the crediting period. |



| | |
|---------------------------|---|
| Data/Parameter | $EF_{grid,BM,y}$ |
| Unit | tCO ₂ e/MWh |
| Description | Build Margin Emission Factor of NEWNE Electricity Grid |
| Source of data | “CO ₂ Baseline Database for Indian Power Sector”, version 5 published by the Central Electricity Authority, Ministry of Power, Government of India. The “CO ₂ Baseline Database for Indian Power Sector” is available at www.cea.nic.in |
| Value(s) applied | 0.67518 |
| Purpose of data | To calculate Baseline Emission. |
| Additional comment | The value is calculated on ex-ante basis and it will remain same throughout the crediting period. |

| | |
|---------------------------|---|
| Data/Parameter | $EF_{CM,y}$ |
| Unit | tCO ₂ e/MWh |
| Description | Combined Margin Emission Factor of NEWNE Electricity Grid |
| Source of data | “CO ₂ Baseline Database for Indian Power Sector”, version 5 published by the Central Electricity Authority, Ministry of Power, Government of India. The “CO ₂ Baseline Database for Indian Power Sector” is available at www.cea.nic.in |
| Value(s) applied | In case of wind power projects default weights of 0.75 for $EF_{grid,OM,y}$ and 0.25 for $EF_{grid,BM,y}$ are applicable as per ACM0002. Combined Margin Emission Factor ($EF_{grid,CM,y}$) = 0.92252 |
| Purpose of data | Combined Margin Emission Factor has been calculated by the Central Electricity Authority in accordance with CDM methodologies: AMS I.D., and Tool to Calculate the emission Factor for an Electricity System. |
| Additional comment | The value is calculated on ex-ante basis and it will remain same throughout the crediting period. |

D.2. Data and parameters monitored

| | |
|--|--|
| Data/Parameter | EG _{BL,y} |
| Unit | MWh (Mega-watt hour) |
| Description | Net Quantity of Electricity exported to the grid |
| Measured/Calculated/Default | Calculated |
| Source of data | Share certificate issued by GETCO. |
| Value(s) of monitored parameter | 19367.736 MWh (Details given in Appendix II) |
| Monitoring equipment | Details are provided in Appendix III. |
| Measuring/Reading/Recording frequency | Monthly |
| Calculation method (if applicable) | <p>The procedures for metering will be as per the provisions of the power purchase agreement. The WECs of a single customer (VWILLP in this case) are divided into clusters and each cluster has dedicated metering system. Different clusters are connected to different Vacuum Circuit Breaker metering yards (VCB) which ultimately lead to the shared main GETCO meter (also known as revenue meter) at the Sadodar substation maintained by Enercon (India) Limited. Data monitoring takes place at the cluster metering points and GETCO main meter at the EIL substation.</p> <p>The net electricity supplied to the grid by the wind farm is calculated by GEDA on the basis of GETCO main meter reading and the meter readings taken at individual cluster meters after adjusting transmission loss. For adjustment of transmission loss, the electricity metered at the GETCO meter is proportionally divided by GEDA among the customers connected to the GETCO meter/revenue meter on the basis of the pro rata readings taken at the cluster meters. . The meter reading is taken jointly by the representatives of Enercon and GEDA/GETCO in the form of JMR on monthly basis. The meter reading recorded at cluster meters are sent to GEDA every day.</p> <p>The net electricity exported by the project activity is taken directly from the share certificate issued by GETCO on monthly basis. The apportioning procedure is performed by GEDA personnel based on the data received from LCS meters & clusters meters on daily basis and the PP has no role.</p> |
| QA/QC procedures | Annual calibration of all the meters will be undertaken and faulty meters will be duly replaced immediately. The Net Quantity of Electricity exported to the grid as per Share certificate issued by GETCO can be cross verified by the sale invoice. |
| Purpose of data | To calculate baseline emission. |
| Additional comment | The data will be archived for crediting period + 2 years. |

D.3. Implementation of sampling plan

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No sampling plan is followed by PP.

SECTION E. Calculation of emission reductions or GHG removals by sinks**E.1. Calculation of baseline emissions or baseline net GHG removals by sinks**

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The baseline emissions are to be calculated as follows:

$$BE_y = EG_{BL,y} * EF_{CO_2,grid,y}$$

Where:

BE_y = Baseline emissions in year y (tCO₂/yr)

$EG_{BL,y}$ = Net electricity supplied to the grid in year y and is applied directly from JMR certified by state utility. This value can also be cross checked from the invoice. (MWh/yr)

$EF_{CO_2,grid,y}$ = CO₂ emission factor of the grid

Baseline emission factor (Combined Margin) ($EF_{CO_2,grid,y}$)
= 0.92252 tCO₂e/MWh

Electricity supplied to the grid by the Project ($EG_{BL,y}$) for this monitoring period (01/09/2011 to 30/09/2012):
= 19,367.736 MWh

Baseline Emissions Reduction:

$$\begin{aligned} BE_y &= EG_{BL,y} * EF_{CO_2,grid,y} \\ &= 0.92252 \text{ tCO}_2\text{e/MWh} \times 19367.736 \text{ MWh} \\ &= 17,868 \text{ tCO}_2\text{e} \end{aligned}$$

As per approved methodology AMS I.D (Version 16)

$$\begin{aligned} ER_y &= BE_y - PE_y - LE_y \\ ER_y &= 17,868 - 0 - 0 \\ &= 17,868 \end{aligned}$$

Emission reductions from the project activity are equal to the baseline emissions as project emissions and leakage are nil.

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

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

E.3. Calculation of leakage

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No leakage is considered from the project activity as per approved methodology AMS I.D.

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

| Time Period | Baseline emissions or baseline net GHG removals by sinks (tCO ₂ e) | Project emissions or actual net GHG removals by sinks (tCO ₂ e) | Leakage (tCO ₂ e) | Emission reductions or net anthropogenic GHG removals by sinks (tCO ₂ e) |
|-------------------------|---|--|------------------------------|---|
| 01/09/2011 – 31/12/2011 | 3,482 | 0 | 0 | 3,482 |
| 01/01/2012 – 30/09/2012 | 14,386 | 0 | 0 | 14,386 |
| Total | 17,868 | 0 | 0 | 17,868 |

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

| Item | Values estimated in ex-ante calculation of registered PDD | Actual values achieved during this monitoring period |
|---|---|--|
| Emission reductions or GHG removals by sinks (tCO ₂ e) | 20,086 | 17,868 |

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

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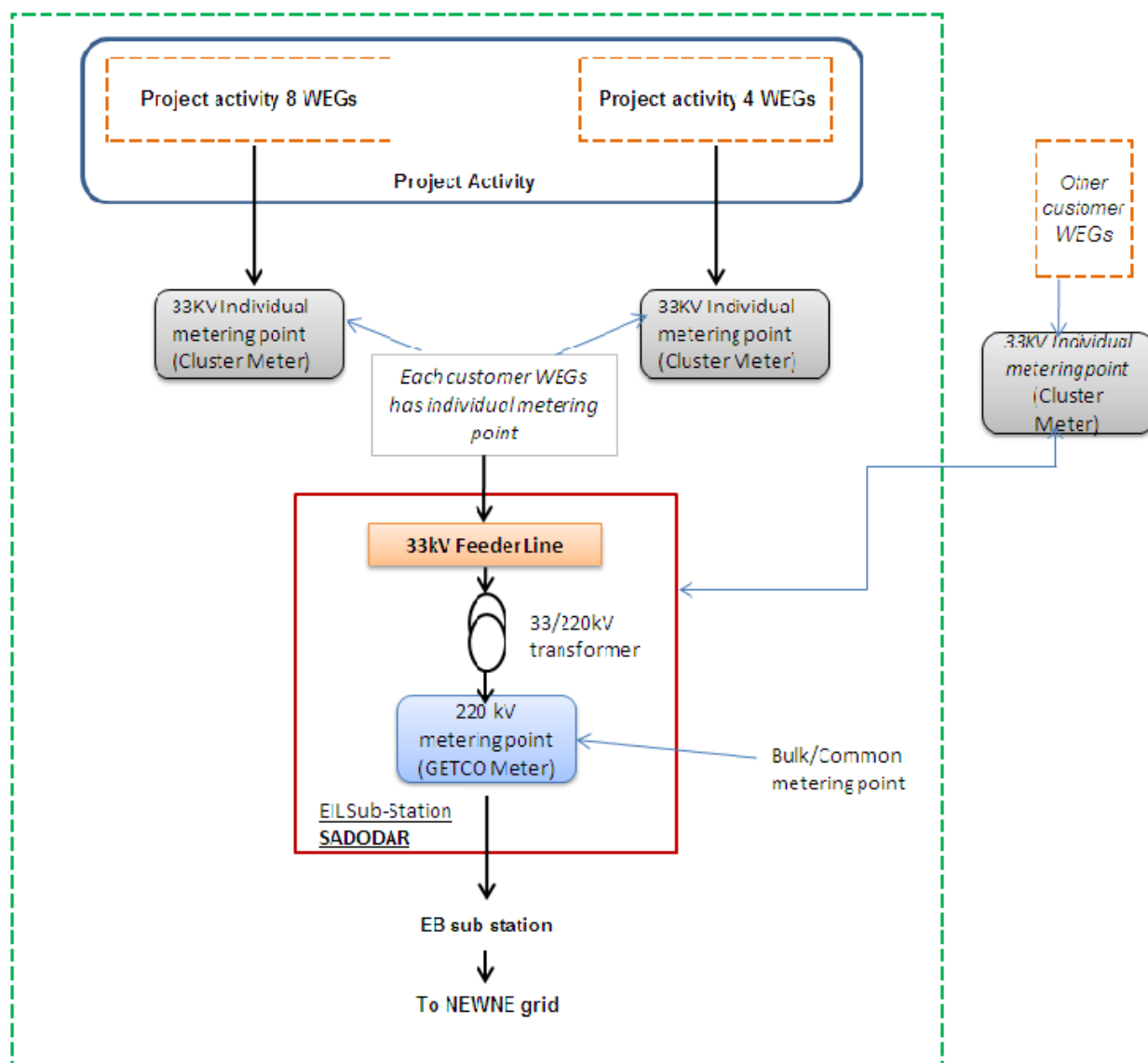
The emission reduction has been calculated for 13 months under the present monitoring period, while in registered PDD the Emission Reductions are calculated for a year (12 months). Proportionate number of CERs for a period of thirteen months as per registered PDD comes out to be 20,086. However, actual number of CERs achieved in the present monitoring period is 17,868. This reflects a difference of 11.04% on the downside, which is due to the low PLF achieved by the project activity.

History of the document

| Version | Date | Nature of revision |
|---|--------------------------------|--|
| 02.0 | EB 66 13 March 2012 | Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20). |
| 01 | EB 54, Annex 34 28 May 2010 | Initial adoption. |
| Decision Class: Regulatory Document Type: Form Business Function: Issuance | | |

Appendix I

Line Diagram of the project Activity



**Appendix II:****Net Electricity Exported to Grid (EG_y)**

Electricity Generation and CER Calculation

| Month | Vish Wind Infrastructure LLP | | | J. N. Investment & Trading Co. Private Limited | | | Total |
|--------|------------------------------|---|------------------------|---|--|-------------------------|-------|
| | Net Export (MWh) | Emission Factor (tCO ₂ /MWh) | CER(tCO ₂) | Net Export (MWh) | Emission Factor(tCO ₂ /Mwh) | CER (tCO ₂) | |
| Sep-11 | 466.377 | 0.92252 | 430 | 242.320 | 0.92252 | 224 | 3482 |
| Oct-11 | 520.385 | 0.92252 | 480 | 313.059 | 0.92252 | 289 | |
| Nov-11 | 434.186 | 0.92252 | 401 | 291.681 | 0.92252 | 269 | |
| Dec-11 | 1007.211 | 0.92252 | 929 | 498.452 | 0.92252 | 460 | |
| Jan-12 | 969.168 | 0.92252 | 894 | 520.157 | 0.92252 | 480 | 14386 |
| Feb-12 | 1036.336 | 0.92252 | 956 | 616.811 | 0.92252 | 569 | |
| Mar-12 | 818.160 | 0.92252 | 755 | 523.169 | 0.92252 | 483 | |
| Apr-12 | 845.771 | 0.92252 | 780 | 487.197 | 0.92252 | 449 | |
| May-12 | 1227.893 | 0.92252 | 1133 | 652.532 | 0.92252 | 602 | |
| Jun-12 | 1607.104 | 0.92252 | 1483 | 827.291 | 0.92252 | 763 | |
| Jul-12 | 1727.869 | 0.92252 | 1594 | 864.167 | 0.92252 | 797 | |
| Aug-12 | 1239.398 | 0.92252 | 1143 | 660.030 | 0.92252 | 609 | |
| Sep-12 | 600.135 | 0.92252 | 554 | 370.876 | 0.92252 | 342 | |
| Total | 12499.993 | | 11532 | 6867.743 | | 6336 | 17868 |



Appendix III

Metering system details:

The details of meters installed at the substation are provided below:

| Name of Substation | Main Meter/GETCO Meter | Calibration | | |
|--------------------|------------------------|-------------|------------|------------|
| | | 2010 | 2012 | Due on |
| Sadodar | GJB 01470 | 22/01/2010 | 17/01/2012 | 16/01/2013 |
| | GJU 04175 | 22/01/2010 | 17/01/2012 | 16/01/2013 |
| | GJU 04176 | 22/01/2010 | 17/01/2012 | 16/01/2013 |
| | KAB11082 | 29/05/2010 | 17/01/2012 | 16/01/2013 |

As per the Monitoring plan, the meters shall be tested for accuracy once annually. However it can be seen from above table that the consecutive calibrations for the year 2011 are not done for the main meter installed at Sadodar Sub-station annually on time. Therefore in accordance with “Guidelines For Assessing Compliance With The Calibration Frequency Requirements”–Annex 60 to EB 52, Paragraph 4(a) where calibration is not carried out in line with the frequency mentioned in the registered PDD, as a conservative approach, the net energy export values (as mentioned in the JMR) can be considered after applying the maximum possible value of error of the instrument to the measured values.

Since the latest test certificate shows that meters are operating within their accuracy class 0.2s. In accordance with Annex 60, EB 52 we have applied a correction factor of +0.2% for the year 2011 for the WECs connected to Sadodar Substation, which can be verified from calculation of emission reductions provided in spreadsheet.