



**Monitoring report form for CDM project activity  
(Version 06.0)**

*Complete this form in accordance with the instructions attached at the end of this form.*

**MONITORING REPORT**

<b>Title of the project activity</b>	Mampuri Wind Power Project	
<b>UNFCCC reference number of the project activity</b>	9074	
<b>Version number of the PDD applicable to this monitoring report</b>	12	
<b>Version number of this monitoring report</b>	03	
<b>Completion date of this monitoring report</b>	05/04/2018	
<b>Monitoring period number</b>	03	
<b>Duration of this monitoring period</b>	01/01/2016 – 31/12/2017	
<b>Monitoring report number for this monitoring report</b>	NA	
<b>Project participants</b>	Senok Wind Power (Private) Limited  Asian Development Bank, as trustee of the Future Carbon Fund ;  Swedish Energy Agency	
<b>Host Party</b>	Sri Lanka	
<b>Sectoral scopes</b>	01:Energy Industries	
<b>Applied methodologies and standardized baselines</b>	AMS I.D. Version 17, "Grid Connected Renewable Electricity Generation"	
<b>Amount of GHG emission reductions or net anthropogenic GHG removals achieved by the project activity in this monitoring period</b>	Amount achieved before 1 January 2013	Amount achieved from 1 January 2013
		33,254 tCO <sub>2</sub> e
<b>Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD</b>	Annual estimation: 18,768 tCO <sub>2</sub> For the period of 2016 and 2017, a period of 24 months 01/01/2016 – 31/12/2017 : Total for this monitoring period : 37,536 tCO <sub>2</sub>	

## SECTION A. Description of project activity

### A.1. General description of project activity

>>(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 use the wind energy potential in the North West coastal belt of Sri Lanka to produce a total of 10 MW using eight wind turbines, each rated at 1.25 MW.

Electricity produced is sold to Ceylon Electricity Board (CEB), the national electricity utility, through a dedicated transmission line and its operations and sale of electricity are governed by the Permit issued by SLSEA, and the standardised Small Power Purchase Agreement (SPPA) signed with CEB.

The SPPA is executed for a period of 20 years, which is also considered the project lifetime. The Operation and the Maintenance of the WTGs will be carried out by the manufacturer and the required spares and accessories will be made available for the duration of the project.

The manufacturers have also guaranteed a power curve and a machine availability percentage, which ensures that the machines have to be at a peak working condition.

Further, the plant will shut down operations in the following scenarios:

- (1) Grid interruptions
- (2) Wind speed lower than cut-in speed and higher than cut-off speed
- (3) Scheduled preventive maintenance
- (4) Unscheduled corrective maintenance

This project is the first wind power project in Sri Lanka and it was commissioned in 2010.

(b) Brief description of the installed technology and equipment;

The WTGs are Suzlon make S64-1.25 MW machines. The project is located in Mampuri, Puttalam and was developed by Senok Wind Power (Pvt) Ltd.

The metering of the generation takes place at the panel room of the project, where all eight WTGs are connected. The metering of the project was done by the CEB, and at the commissioning of the project, the officials from the CEB connected the meters for the metering as described in Section C below.

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

Date of commissioning of each WTG\* is as follows

WTG 1	14/05/2010
WTG 2	14/05/2010
WTG 3	14/05/2010
WTG 4	14/05/2010
WTG 5	14/05/2010
WTG 6	14/05/2010
WTG 7	14/05/2010
WTG 8	14/05/2010

\*These dates have been recorded in the "Project handing over checklist" document which denotes the date of commissioning of each WTG and has been signed and accepted by the WTG manufacturer and project owner.

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

The power plant generated a gross energy output of 49,054,044 KWh during the monitoring period, and hence the total CERs for the monitoring report was 33,254 tCO<sub>2</sub>

## A.2. Location of project activity

>>Host party : Sri Lanka  
Province: North Western  
District: Puttalam  
Local Authority: Kalpitiya Pradeshiya Sabha  
Village: Mampuri

Physical location:

The coordinates of the eight wind turbine generator locations are the following:

Wind Turbine Generator (WTG)	WTG Unique Serial Number*	Latitude	Longitude
WTG1	0809PRI1250PP0021	N 8° 0' 36.7194"	E 79° 43' 23.8794"
WTG2	0809PRI1250PP0022	N 8° 0' 26.28"	E 79° 43' 27.84"
WTG3	0809PRI1250PP0020	N 8° 0' 8.6394"	E 79° 43' 33.5994"
WTG4	0809PRI1250PP0016	N 7° 59' 33.36"	E 79° 43' 23.2794"
WTG5	0809PRI1250PP0015	N 7° 59' 22.92"	E 79° 43' 43.32"
WTG6	0809PRI1250PP0018	N 7° 59' 12.4794"	E 79° 43' 45.12"
WTG7	0809PRI1250PP0017	N 7° 58' 59.52"	E 79° 43' 48.7194"
WTG8	0809PRI1250PP0019	N 7° 58' 47.2794"	E 79° 43' 51.9594"

\*These serial numbers have been recorded in the "Project handing over checklist" document which denotes the serial number of each WTG at the corresponding location and has been signed and accepted by the WTG manufacturer and project owner.

Access to Site:

The site is accessed by turning from A3 Colombo-Puttalam road at Palavi, to B 349 Palavi – Kalpitiya road. When travelling from Palavi towards Kalpitiya along this road, turn left at the Mampuri junction, which is approximately 12 km from Palavi. Move through the Mampuri village to reach the beach front, along which the site is located

## A.3. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Sri Lanka (host Party)	Private entity Senok Wind Power (Private) Limited	No
Sweden( Other party)	Asian Development Bank, as trustee of the Future Carbon Fund ; Swedish Energy Agency	No

**A.4. Reference to applied methodologies and standardized baselines**

>>(a) Applied methodology:

AMS-I.D version 17 - Grid connected renewable electricity generation

(b) Tools and any other methodology: Tool to calculate the emission factor for an electricity system (Version 02.2.1) EB 63 Report Annex 19 Tool for the demonstration and assessment of additionality (Version 07.0.0) EB 70 Report Annex 08

Guidelines on additionality of first-of-its-kind project activities (Version 2.0) EB 69, Annex 07

**A.5. Crediting period type and duration**

>> Type: Fixed crediting period

Start date and end date of the crediting period: 01/01/2013 – 31/12/2022

Current monitoring period: 01/01/2016 – 31/12/2017

Length of the current monitoring period: 2 years

**SECTION B. Implementation of project activity****B.1. Description of implemented project activity**

>>The project has been implemented as described above in section 'A.1.Purpose and general description of project activity'. The total installed capacity of the Project is 10MW equipped with 8 sets of turbines with a unit capacity of 1.25MW. Electricity generated by the Project is delivered to the CEB via a 33kV line. The project activity uses a proven wind turbine, and has selected the Suzlon S64/1250 machine. Each wind turbine is located within a block of land of approximate dimensions 150 m x 100 m. Foundation for each wind turbine is located approximately in the middle of its block of land. The turbine mast is of tubular structure, transported in sections and was assembled on site. Each turbine consists of three blades, each of length 31 m. The nacelle houses the gearbox and the electricity generator. The generator is of induction type. The complete technical specifications are given in the box.

The generating voltage is 690 V. Power generated is connected to a step-up transformer located at the foot of each turbine mast, where the voltage is raised to 33 kV to be compatible with the medium voltage transmission system of CEB. There is a 33 kV transmission line along the entire 3.5 km length of the wind park, to which the output of each turbine is connected. At a location approximately in the middle of the park, near WTG5, there is a central switching arrangement to connect the wind power plant to the CEB network. CEB's metering point is located immediately after this interconnection point. A new 33 kV transmission line from the CEB metering point located in the middle of the wind park near WTG5 to reach the national grid was built by the project proponent.

The project was commissioned in 2010 and each WTG commissioning date is as follows:

WTG 1	14/05/2010
WTG 2	14/05/2010
WTG 3	14/05/2010
WTG 4	14/05/2010
WTG 5	14/05/2010
WTG 6	14/05/2010
WTG 7	14/05/2010
WTG 8	14/05/2010

Manufacturer: Suzlon Energy Limited, India

#### Operating Data

Rated power	1250 kW
Cut-in wind speed	3 m/s
Rated wind speed	14 m/s
Cut-out wind speed	25 m/s
Survival wind speed	67 m/s
Regulation	Pitch-regulated

#### Rotor

Type	3 bladed, horizontal axis
Diameter	64 m
Swept area	3217 m <sup>2</sup>
Speed	20.7 / 13.8 rpm

#### Hub

Type	SG Iron Casting
Material	GGG 40.3

#### Generator

Type	Asynchronous; 4/6 pole
Rated Power	250/1250 kW
Rated voltage	690 V
Rotational speed	1006/1506 rpm
Frequency	50 Hz
Protection	IP 56
Cooling system	Air cooled
Insulation	Class H

#### Braking System

Aerodynamic braking	3 independent systems with blade pitching
Mechanical braking	Hydraulic fail safe disc brake system

#### Gearbox

Type	3-stage (1 planetary & 2 helical)
Ratio	74.917:1 (50Hz)
Nominal load	1390 kW

#### Yaw System

Type	Active electrical
Bearings	Polyamide slide
Brake	Clutch brake on drive motor
Drive	4 electrical driven planetary gearbox
Protection	By cable twist sensor, proximity sensor

#### Pitch System

Type	3 independent blade pitch control
Actuation	Individual electro-mechanical drive
Bearing	Double row, ball bearings
Operating range	-5° to 88°
Resolution	0.1°
Back up	Battery pack
Drives	Planetary gearbox with AC inverter drive

#### Certifications

Design Standards	GL/TEC
Quality	ISO 9001

#### Tower

Type	Tubular
Hub height	74 m
Corrosion protection	Epoxy / PU coated
Erection	With crane

#### Protection

Lightning protection standard	IEC 1024-1, VDE 0185 part 1 & 2 DIN 48801 and DIN 18014
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#### Blades

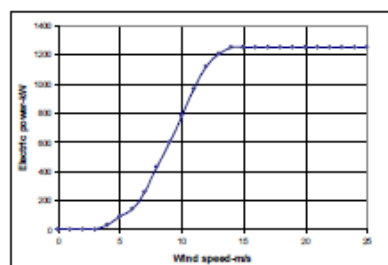
Receptor in blade tips

#### Controller

Programmable microprocessor based  
High-speed data communication  
Active multilevel security  
Sophisticated operating software  
Advanced data collection, remote monitoring & control option  
UPS back up  
Real time operation indication

#### Power Curve

Air density: 1.225 kg/m<sup>3</sup>



## B.2. Post-registration changes

### B.2.1. Temporary deviations from the registered monitoring plan, applied methodologies or standardized baselines

>> There have been no temporary deviations from the registered monitoring plan, applied methodology or applied standardized baseline.

### B.2.2. Corrections

>> There have been no corrections to the registered monitoring plan, applied methodology or applied standardized baseline.

### B.2.3. Changes to the start date of the crediting period

>> There have been no changes to start date of crediting period

### B.2.4. Inclusion of monitoring plan

>> There have been no inclusions of a monitoring plan to the registered PDD that was not included at registration

### B.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools

>> There have been no permanent changes to the registered monitoring plan, applied methodology or applied standardized baseline. However, there have been post registration changes in the previous period and approved by CDM EB on 9<sup>th</sup> December 2016 by the PRC -REF 9074-001.

### B.2.6. Changes to project design

>> There have been no changes to project design of registered project activity

## SECTION C. Description of monitoring system

>>

An electricity meter is fixed at the metering point located at the interconnection point to the Ceylon Electricity Board (CEB) grid. This is a requirement specified in the Small Power Purchase Agreement (SPPA) already executed between Senok Wind Power (Pvt) Ltd and CEB. The meter measures electricity dispatched to the grid at the project boundary. This meter is of the type and accuracy approved by CEB, and the SPPA states that it will be read by CEB once a month. This is an established practice for CEB to read the meters of all the small power producers in the country once a month. This meter reading is in two parts:

M1: Electricity exports to the project electricity system from the small scale CDM project activity

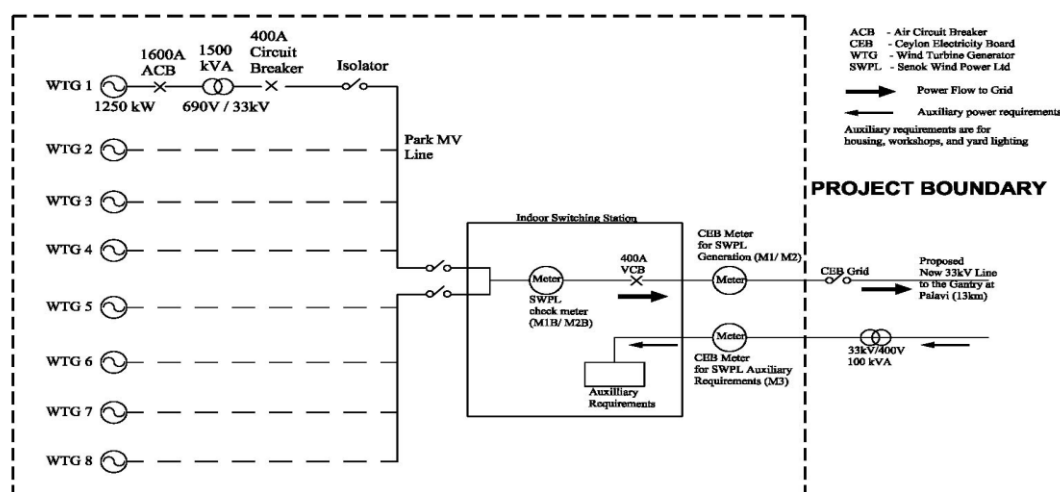
M2: Electricity imports from the project electricity system for requirements of the project activity, when the wind power plant is not in operation

Reading M1 is also be used by SWPL to prepare the monthly invoice to the purchaser, CEB for the sale of electricity.

Reading M2 is also be used by CEB to issue an invoice for the electricity purchased by the project activity, when the wind power plant is not in operation

M1 and M2 are incorporated in the same meter housing. The meter calibration reports for M1/M2 done by the CEB have been provided and the results are given in section D2 below. There is a second meter located elsewhere, as described below.

A diagrammatic representation of the implemented project activity and the project boundaries as per the monitoring plan has been enclosed below.



**SECTION D. Data and parameters****D.1. Data and parameters fixed ex ante***(Copy this table for each data or parameter.)*

<b>Data/parameter:</b>	$EF_{grid,CM,y}$
Unit	tCO <sub>2</sub> /MWh
Description	Combined Margin Emission Factor
Source of data	Sales and Generation Data Books (2005, 2006, 2007)
Value(s) applied)	<b>0.6791</b>
Choice of data or measurement methods and procedures	
Purpose of data	For calculation of baseline emissions
Additional comments	This value is ex ante basis and remains during the monitoring period

<b>Data/parameter:</b>	$EF_{grid,OM,Y}$
Unit	tCO <sub>2</sub> /MWh
Description	Simple operating margin CO <sub>2</sub> emission factor in year y
Source of data	Sales and Generation Data Books (2005, 2006, 2007), Ceylon Electricity Board (CEB)
Value(s) applied)	0.6921
Choice of data or measurement methods and procedures	
Purpose of data	For calculation of baseline emissions
Additional comments	The value is calculated on ex-ante basis and it will remain same throughout the crediting period.

<b>Data/parameter:</b>	$EF_{grid,BM,y}$
Unit	tCO <sub>2</sub> /MWh
Description	Build margin CO <sub>2</sub> emission factor in year y
Source of data	Sales and Generation Data Books (2007), Ceylon Electricity Board (CEB)
Value(s) applied)	0.6405
Choice of data or measurement methods and procedures	
Purpose of data	For calculation of baseline emissions
Additional comments	The value is calculated on ex-ante basis and it will remain same throughout the crediting period.

**D.2. Data and parameters monitored**

(Copy this table for each data or parameter.)

<b>Data/parameter:</b>	<b>EG<sub>y</sub></b>																				
Unit	kWh																				
Description	Quantity of net electricity supplied to the grid in a year																				
Measured/calculated/default	Calculated																				
Source of data	Gross energy sales to Ceylon Electricity Board and 2. Energy purchased from Ceylon Electricity Board																				
Value(s) of monitored parameter	489,67,589 kWh (After considering error due to delayed calibration).																				
Monitoring equipment	<p>Export Meter (M1)</p> <table border="1"> <tr><td>Serial No.</td><td>208307615</td></tr> <tr><td>Make</td><td>EDMI</td></tr> <tr><td>Model</td><td>3 phase 4 wire</td></tr> <tr><td>Type</td><td>PPM</td></tr> <tr><td>Accuracy class</td><td>1</td></tr> </table> <p>M1: Electricity exports to the project electricity system from the small scale CDM project activity</p> <p>Import Meter (M2)</p> <table border="1"> <tr><td>Serial No.</td><td>208307615</td></tr> <tr><td>Make</td><td>EDMI</td></tr> <tr><td>Model</td><td>3 phase 4 wire</td></tr> <tr><td>Type</td><td>PPM</td></tr> <tr><td>Accuracy class</td><td>1</td></tr> </table> <p>M2: Electricity imports from the project electricity system for requirements of the project activity, when the wind power plant is not in operation</p>	Serial No.	208307615	Make	EDMI	Model	3 phase 4 wire	Type	PPM	Accuracy class	1	Serial No.	208307615	Make	EDMI	Model	3 phase 4 wire	Type	PPM	Accuracy class	1
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Model	3 phase 4 wire																				
Type	PPM																				
Accuracy class	1																				
Measuring/reading/recording frequency:	Continuous measuring, monthly recoding of the Meters																				
Calculation method (if applicable):	The value is calculated as the difference between Gross energy sales to CEB and Energy purchased from CEB																				



QA/QC procedures:	<p>QA/QC procedures for 1. Gross Energy Sales to Ceylon Electricity Board and 2. Energy purchased from Ceylon Electricity Board, apply to this parameter as well. These are cross- checked against invoices.</p> <p>Meter Calibration details:</p> <p>Export Meter (M1)</p> <table border="1"> <tr> <td>Date of Calibration</td><td>04/09/2015</td><td>15/09/2016</td><td>25/10/2017</td></tr> <tr> <td>Percentage Error (%)</td><td>-0.327</td><td>0.033</td><td>0.12</td></tr> </table> <p>Import Meter (M2)</p> <table border="1"> <tr> <td>Date of Calibration</td><td>04/09/2015</td><td>15/09/2016</td><td>25/10/2017</td></tr> <tr> <td>Percentage Error (%)</td><td>-0.327</td><td>0.033</td><td>0.12</td></tr> </table>	Date of Calibration	04/09/2015	15/09/2016	25/10/2017	Percentage Error (%)	-0.327	0.033	0.12	Date of Calibration	04/09/2015	15/09/2016	25/10/2017	Percentage Error (%)	-0.327	0.033	0.12
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Percentage Error (%)	-0.327	0.033	0.12														
Purpose of data:	Calculation of baseline emissions																
Additional comments:	<p>The meter calibration is carried out annually by the CEB testing laboratories and the reports are then submitted to the Project developer.</p> <p>Hence 1% has been added to the total imported via M2 for September 2016 and for the months of September and October on 2017 and has been indicated in the attached worksheet and</p> <p>1% has been deducted from the total generation for September 2016 and the months of September and October on year 2017 (export via M1) and has been indicated in the attached worksheet</p>																

<b>Data/parameter:</b>	<b>EG<sub>imp,y</sub></b>
Unit	kWh
Description	Energy purchased from CEB
Measured/calculated/default	Calculated (summation of (1) and (2))
Source of data	(1) Import register of the energy meter installed at the Point of Supply (POS) to the national grid and (2) Energy meter installed at the point of purchase of electricity from a local distribution line.
Value(s) of monitored parameter	59,674 kWh (After considering error due to delayed calibration). 59,628 kWh (Before considering error due to delayed calibration)

Monitoring equipment	<p>1) The energy meter at the POS was installed and is maintained by Ceylon Electricity Board in accordance with the Small Power Purchase Agreement. The meter (M2) is read by CEB every month, in the presence of the SWPL representative.</p> <p>(2) The energy meter at the point of purchase is installed by Ceylon Electricity Board. This meter (M2) will be read by CEB every month.</p> <p>Import Meter (M2)</p> <table border="1" data-bbox="667 427 1235 591"> <tr> <td>Serial No.</td><td>208307615</td></tr> <tr> <td>Make</td><td>EDMI</td></tr> <tr> <td>Model</td><td>3 phase 4 wire</td></tr> <tr> <td>Type</td><td>PPM</td></tr> <tr> <td>Accuracy class</td><td>1</td></tr> </table>	Serial No.	208307615	Make	EDMI	Model	3 phase 4 wire	Type	PPM	Accuracy class	1
Serial No.	208307615										
Make	EDMI										
Model	3 phase 4 wire										
Type	PPM										
Accuracy class	1										
Measuring/reading/recording frequency:	Calculated monthly - The import reading of the meter (M2) is read by CEB every month, in the presence of the SWPL representative. The meter continuously monitors, conduct hourly measurements and at least monthly recording.										
Calculation method (if applicable):	<p>M2</p> <p>On a monthly basis, the sum of the total usage for the months, tabulated via M2 and is considered as the total output of the project.</p>										
QA/QC procedures:	<p>The meter readings are checked against the monthly invoice issued to CEB. The accuracy of the meter installed is Class 1. The meter accuracy is tested (i.e. the meter shall be calibrated) by the CEB meter testing laboratory annually as specified in the Small Power Purchase Agreement. If at any time there is a concern about the accuracy, SWPL or CEB can request a test.</p> <p>Import Meter (M2)</p> <table border="1" data-bbox="528 1137 1155 1263"> <tr> <td>Date of Calibration</td><td>04/09/2015</td><td>15/09/2016</td><td>25/10/2017</td></tr> <tr> <td>Percentage Error (%)</td><td>-0.327</td><td>0.033</td><td>0.12</td></tr> </table>	Date of Calibration	04/09/2015	15/09/2016	25/10/2017	Percentage Error (%)	-0.327	0.033	0.12		
Date of Calibration	04/09/2015	15/09/2016	25/10/2017								
Percentage Error (%)	-0.327	0.033	0.12								
Purpose of data:	Calculation of baseline emissions										
Additional comments:	<p>This measures the energy purchased from the national grid to satisfy the requirements of the Project. These requirements would generally be the requirements for lighting, transformer energisation and workshops, when the power output of wind turbines is low and inadequate to meet the requirements.</p> <p>As a backup to the energy meter M2 installed by CEB for contractual purpose, an additional meter (M2B) has been installed in the power plant at the expense of SWPL. This meter which is a part of the main panel, has a self calibration mechanism as confirmed by the independent agency contracted to calibrate the panel.</p>										

(Copy this table for each data or parameter.)

<b>Data/parameter:</b>	<b>EG<sub>exp,y</sub></b>										
Unit	kWh										
Description	Gross Energy Sales to Ceylon Electricity Board										
Measured/calculated/default	Measured										
Source of data	Export register of the energy meter installed at the Point of Supply (POS) to the national grid										
Value(s) of monitored parameter	49,027,263 kWh (After considering error due to delayed calibration). 49,113,672 kWh (Before considering error due to delayed calibration)										
Monitoring equipment	<p>The energy meter has been installed and is being maintained by Ceylon Electricity Board in accordance with the Small Power Purchase Agreement.</p> <p>Export Meter (M1)</p> <table border="1"> <tr> <td>Serial No.</td><td>208307615</td></tr> <tr> <td>Make</td><td>EDMI</td></tr> <tr> <td>Model</td><td>3 phase 4 wire</td></tr> <tr> <td>Type</td><td>PPM</td></tr> <tr> <td>Accuracy class</td><td>1</td></tr> </table>	Serial No.	208307615	Make	EDMI	Model	3 phase 4 wire	Type	PPM	Accuracy class	1
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Make	EDMI										
Model	3 phase 4 wire										
Type	PPM										
Accuracy class	1										
Measuring/reading/recording frequency:	Continuous monitoring and Monthly recording- The export reading of the main meter (M1) is read by CEB every month, in the presence of the SWPL representative. The meter will continuously monitor, conduct hourly measurements and at least monthly recording.										
Calculation method (if applicable):	Not applicable as it is a monitored parameter										
QA/QC procedures:	<p>The meter readings are checked against the monthly invoice issued to CEB. The accuracy of the meter installed is 1. The meter accuracy will be tested (i.e. the meter shall be calibrated) by an independent agency, once a year, as specified in the Small Power Purchase Agreement. If at any time there is a concern about the accuracy, SWPL or CEB can request a test</p> <p>Export Meter (M1)</p> <table border="1"> <tr> <td>Date of Calibration</td><td>04/09/2015</td><td>15/09/2016</td><td>25/10/2017</td></tr> <tr> <td>Percentage Error (%)</td><td>-0.327</td><td>0.033</td><td>0.12</td></tr> </table>	Date of Calibration	04/09/2015	15/09/2016	25/10/2017	Percentage Error (%)	-0.327	0.033	0.12		
Date of Calibration	04/09/2015	15/09/2016	25/10/2017								
Percentage Error (%)	-0.327	0.033	0.12								
Purpose of data:	Calculation of Baseline Emissions										
Additional comments:											

**D.3. Implementation of sampling plan**

&gt;&gt;Not applicable

**SECTION E. Calculation of emission reductions or net anthropogenic removals****E.1. Calculation of baseline emissions or baseline net removals**>>  $BE_y = EG_y * EF_{grid,CM,y}$ , where $BE_y$  = Baseline Emissions in tCO<sub>2</sub>e $EG_y$  = Quantity of net electricity supplied to the grid [48,967,588 kWh] (After applying error for delayed calibration),

(490,27,263 kWh without applying error.)

 $EF_{grid,CM,y}$  = Combined Margin Emission factor [0.6791 tCO<sub>2</sub>/MWh] $BE_y = 48,967,588/1000 * 0.6791$  $BE_y = 33,254$  tCO<sub>2</sub>e**E.2. Calculation of project emissions or actual net removals**

&gt;&gt; Project emissions for the proposed project activity are zero

**E.3. Calculation of leakage emissions**

&gt;&gt;Leakage is to be considered if the energy generating equipment is transferred from another activity, leakage is to be considered. Since there is no such transfer in the project activity, leakage will therefore be zero

**E.4. Calculation of emission reductions or net anthropogenic removals**

	Baseline GHG emissions or baseline net GHG removals (t CO <sub>2</sub> e)	Project GHG emissions or actual net GHG removals (t CO <sub>2</sub> e)	Leakage GHG emissions (t CO <sub>2</sub> e)	GHG emission reductions or net anthropogenic GHG removals (t CO <sub>2</sub> e)		
				Before 01/01/2013	From 01/01/2013	Total amount
<b>Total</b>	33,254	0	0			33,254

**E.5. Comparison of emission reductions or net anthropogenic removals achieved with estimates in the registered PDD**

Amount achieved during this monitoring period (t CO <sub>2</sub> e)	Amount estimated ex ante (t CO <sub>2</sub> e)
33,254	37,536

**E.6. Remarks on increase in achieved emission reductions**>> As per the registered PDD - the estimated CO<sub>2</sub> emission reduction values are 18,768tCO<sub>2</sub>/year. The estimated generation in the PDD is 27.638 GWh per year and 55.276GWh for the monitoring period. The actual generation during the monitoring period is 49 GWh per year.

## Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
06.0	7 June 2017	Revision to: <ul style="list-style-type: none"> <li>• Ensure consistency with version 01.0 of the “CDM project standard for project activities” (CDM-EB93-A04-STAN);</li> <li>• Make editorial improvements.</li> </ul>
05.1	4 May 2015	Editorial revision to correct version numbering.
05.0	1 April 2015	Revisions to: <ul style="list-style-type: none"> <li>• Include provisions related to delayed submission of a monitoring plan;</li> <li>• Provisions related to the Host Party;</li> <li>• Remove reference to programme of activities;</li> <li>• Overall editorial improvement.</li> </ul>
04.0	25 June 2014	Revisions to: <ul style="list-style-type: none"> <li>• Include the Attachment: Instructions for filling out the monitoring report form (these instructions supersede the "Guideline: Completing the monitoring report form" (Version 04.0));</li> <li>• Include provisions related to standardized baselines;</li> <li>• Add contact information on a responsible person(s)/ entity(ies) for completing the CDM-MR-FORM in A.6 and Appendix 1;</li> <li>• Change the reference number from <i>F-CDM-MR</i> to <i>CDM-MR-FORM</i>;</li> <li>• Editorial improvement.</li> </ul>
03.2	5 November 2013	Editorial revision to correct table in page 1.
03.1	2 January 2013	Editorial revision to correct table in section E.5.
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB 70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01.0	28 May 2010	EB 54, Annex 34. Initial adoption.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: monitoring report		