



**Monitoring report form for CDM project activity  
(Version 07.0)**

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

**MONITORING REPORT**

<b>Title of the project activity</b>	Jbel Sendouq-Khalladi ("Khalladi") Wind Farm Project in Morocco	
<b>UNFCCC reference number of the project activity</b>	9047	
<b>Version number of the PDD applicable to this monitoring report</b>	3.4	
<b>Version number of this monitoring report</b>	Version 1.0	
<b>Completion date of this monitoring report</b>	15/03/2021	
<b>Monitoring period number</b>	01	
<b>Duration of this monitoring period</b>	01/07/2018 - 30/06/2020 (including both days) - 2 years	
<b>Monitoring report number for this monitoring period</b>	01	
<b>Project participants</b>	ACWA POWER KHALADI S.A.	
<b>Host Party</b>	Morocco	
<b>Applied methodologies and standardized baselines</b>	CDM Methodology: ACM0002 ver. 12.3.0, - Consolidated baseline methodology for grid-connected electricity generation from renewable sources	
<b>Sectoral scopes</b>	Sectoral Scope 1: Energy industries (renewable - / non-renewable sources)	
<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
	0	379,590 tCO <sub>2</sub>
<b>Amount of GHG emission reductions or net anthropogenic GHG removals estimated ex ante for this monitoring period in the PDD</b>	287,920 tCO <sub>2</sub>	

## SECTION A. Description of project activity

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

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The objective of the project, the Jbel Sendouq-Khalladi ("Khalladi") wind farm project in Morocco, is to generate electricity using state-of-the-art wind power generation technology.

The project is located in the Tangier-Tetouan Region, Fahs Anjra Province, Morocco. 40 wind turbines with a nominal unit capacity of 3 MW are installed, providing a total capacity of 120 MW.

In the 2<sup>nd</sup> monitoring period of the project from 01/07/2018 to 30/06/2020 (both days are included), the project has achieved a total of 379,590 tCO<sub>2</sub> emission reduction.

Relevant project dates are as follow:

- Construction Start date: 16/07/2016
- Project Completion: 29/06/2018
- Electricity supplying to grid by first turbine (WTG label No. V12) 12/12/2017
- Commissioning date of the First turbine (WTG label No. V12): 06/02/2018<sup>1</sup>
- Commissioning of the Last turbine: 29/06/2018

### A.2. Location of project activity

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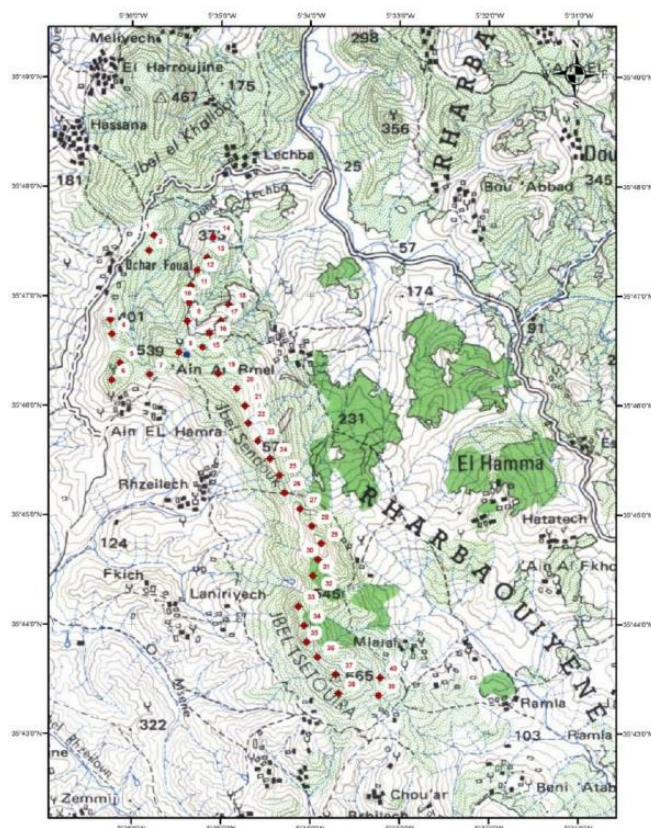
The project is located in Morocco, Tangier-Tetouan Region, Fahs Anjra Province. The project is located within three rural communes of Melloussa, Qsar Sghir and Khmis Anjra.

The project is located in the north of Morocco, approximately 50 Km east of the town of Tangier, in the south of the Qsar Sghir village, between cities of Tangier and Sebta.

The exact location of the project site and the 40 WTGs is represented in the following figures:

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<sup>1</sup> The Electricity supplied to the grid is not related with the takeovers of turbines. Commissioning Certificates are the documents where O&M contractors (Vestas Maroc Sarl) assume full responsibility for the turbines (as indicate on the contract with Vestas).



GPS coordinates:

WTG label	WTG type	Hub Height	Latitude	Longitude
V01	V90-3.0 MW	80	35° 46' 37.0668"	-5° 36' 9.612"
V02	V90-3.0 MW	80	35° 46' 30.864"	-5° 36' 8.334"
V03	V90-3.0 MW	80	35° 46' 15.9528"	-5° 36' 3.308"
V04	V90-3.0 MW	80	35° 46' 9.9048"	-5° 36' 3.748"
V05	V90-3.0 MW	80	35° 46' 4.2096"	-5° 36' 7.625"
V06	V90-3.0 MW	80	35° 46' 19.902"	-5° 35' 29.116"
V07	V90-3.0 MW	80	35° 46' 20.604"	-5° 35' 14.528"
V08	V90-3.0 MW	80	35° 46' 28.3908"	-5° 35' 14.579"
V09	V90-3.0 MW	80	35° 46' 35.472"	-5° 35' 15.727"
V10	V90-3.0 MW	80	35° 46' 42.9096"	-5° 35' 15.45"
V11	V90-3.0 MW	80	35° 46' 17.202"	-5° 34' 48.655"

V12	V90-3.0 MW	80	35° 46' 8.1444"	-5° 35' 16.033"
V13	V90-3.0 MW	80	35° 46' 9.1956"	-5° 34' 52.777"
V14	V90-3.0 MW	80	35° 46' 0.678"	-5° 34' 46.132"
V15	V90-3.0 MW	80	35° 45' 54.1944"	-5° 34' 39.792"
V16	V90-3.0 MW	80	35° 45' 46.728"	-5° 34' 36.883"
V17	V90-3.0 MW	80	35° 45' 39.6108"	-5° 34' 34.342"
V18	V90-3.0 MW	80	35° 45' 32.49"	-5° 34' 30.49"
V19	V90-3.0 MW	80	35° 45' 27.1548"	-5° 34' 26.616"
V20	V90-3.0 MW	80	35° 45' 21.132"	-5° 34' 19.855"
V21	V90-3.0 MW	80	35° 45' 15.21"	-5° 34' 16.122"
V22	V90-3.0 MW	80	35° 45' 7.7796"	-5° 34' 13.134"
V23	V90-3.0 MW	80	35° 45' 0.828"	-5° 34' 10.445"
V24	V90-3.0 MW	80	35° 44' 55.482"	-5° 34' 4.022"
V25	V90-3.0 MW	80	35° 44' 49.8408"	-5° 33' 59.144"
V26	V90-3.0 MW	80	35° 44' 44.5848"	-5° 33' 53.003"
N27	V90-3.0 MW	80	35° 43' 18.7716"	-5° 33' 22"
N28	V90-3.0 MW	80	35° 43' 24.9312"	-5° 33' 38.948"
V29	V90-3.0 MW	80	35° 44' 23.7012"	-5° 33' 47.837"
N30	V90-3.0 MW	80	35° 44' 27.0132"	-5° 33' 56.858"
V31	V90-3.0 MW	80	35° 44' 18.5604"	-5° 33' 53.165"
V32	V90-3.0 MW	80	35° 44' 12.5232"	-5° 33' 50.105"
V33	V90-3.0 MW	80	35° 44' 6.342"	-5° 33' 49.388"
V34	V90-3.0 MW	80	35° 44' 0.7476"	-5° 34' 2.183"
V35	V90-3.0 MW	80	35° 43' 52.7088"	-5° 33' 58.702"
V36	V90-3.0 MW	80	35° 43' 46.4592"	-5° 33' 58.183"

V37	V90-3.0 MW	80	35° 43' 39.882"	-5° 33' 56.182"
N38	V90-3.0 MW	80	35° 43' 34.6692"	-5° 33' 51.001"
N39	V90-3.0 MW	80	35° 43' 29.5608"	-5° 33' 45.544"
V40	V90-3.0 MW	80	35° 43' 20.6436"	-5° 33' 33.16"

### A.3. Parties and project participants

Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Morocco (host party)	ACWA POWER KHALLADI S.A.	No

### A.4. References to applied methodologies and standardized baselines

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ACM0002 (Version 12.3.0): Consolidated baseline and monitoring methodology for grid-connected electricity generation from renewable sources.

The tools for demonstration and assessment of additionally (Version 06.1.0)

The tools to calculate emission factor for an electricity system (Version 02.2.1).

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

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CDM Registration date: 27/12/2012

CDM Crediting Period Start Date: 01/05/2014

Duration of crediting period: 7 years (1<sup>st</sup> crediting period, renewable)

## SECTION B. Implementation of project activity

### B.1. Description of implemented project activity

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The project has an installed capacity of 120 MW and it is expected to generate around 296,100 MWh per year. The 40 wind turbines installed have a nominal unit capacity of 3MW.

The project has been fully commissioned (Commissioning of last turbine V26): 29/06/2018

Currently 40 out of 40 turbines have been installed and are commissioned.

The main technical characteristics of the project's turbines are summarized below:

- 40 no. of V90-3MW turbines;
- Hub height of 80 m;
- Rotor diameter of 90 m;
- Blade length of 44 m. Blades are made out of a glass fibre/carbon spar with glass fibre airfoil shells;
- Turbines benefit from the latest Supervisory Control and Data Acquisition (SCADA) system for modern wind power plants: VestasOnline® Business.

Relevant project dates are as follow:

- Construction Start date: 16/07/2016
- Project Completion: 29/06/2018
- Electricity supplying to grid by first turbine (WTG label No. V12) 12/12/2017

- Commissioning date of the First turbine (WTG label No. V12): 06/02/2018<sup>2</sup>
- Commissioning of the Last turbine: 29/06/2018

## **B.2. Post-registration changes**

### **B.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents**

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Not applicable

### **B.2.2. Corrections**

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Not applicable

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

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Not applicable

### **B.2.4. Inclusion of monitoring plan**

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Not applicable

### **B.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents**

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Not applicable

### **B.2.6. Changes to project design**

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Not applicable

### **B.2.7. Changes specific to afforestation or reforestation project activity**

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Not applicable

## **SECTION C. Description of monitoring system**

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### **a) The aim of the monitoring plan**

Monitoring is a key procedure to verify the real and measurable emission reductions from the project activity. To guarantee the project's real, measurable and long-term GHG emission reductions, the monitoring plan is established.

### **b) Data to be monitored**

One main parameter will be subject to an ex-post monitoring which is the net electricity supplied to the power grid.

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<sup>2</sup> The Electricity supplied to the grid is not related with the takeovers of turbines. Commissioning Certificates are the documents where O&M contractors (Vestas Maroc Sarl) assume full responsibility for the turbines (as indicate on the contract with Vestas).

The baseline emission factor is fixed on ex-ante calculation and thus doesn't need to be monitored every year as per the latest version of the "Tool to calculate the emission factor for an electricity system" (Version 2.2.1).

According to the baseline study, the key parameter of the emissions' reductions evaluation is the net electricity supplied to the grid by the wind farm. The recommended monitoring methodology is based on a specific and continuous measure of the net electricity supplied to the grid that will be derived from the following equation.

$$EG = E1 + E2$$

Where:

EG = Total net generated electricity exported to the grid

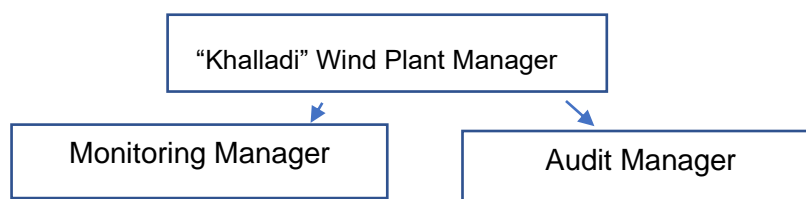
E1 = Net electricity supplied to the national grid through line

E2 = Net electricity supplied to the national grid through line 2

c) Monitoring management organization

The responsible entity for monitoring is the "Khalladi" wind plant manager.

The CDM monitoring team by the project participant is structured as follows:



The responsibilities of the CDM monitoring team members are the following:

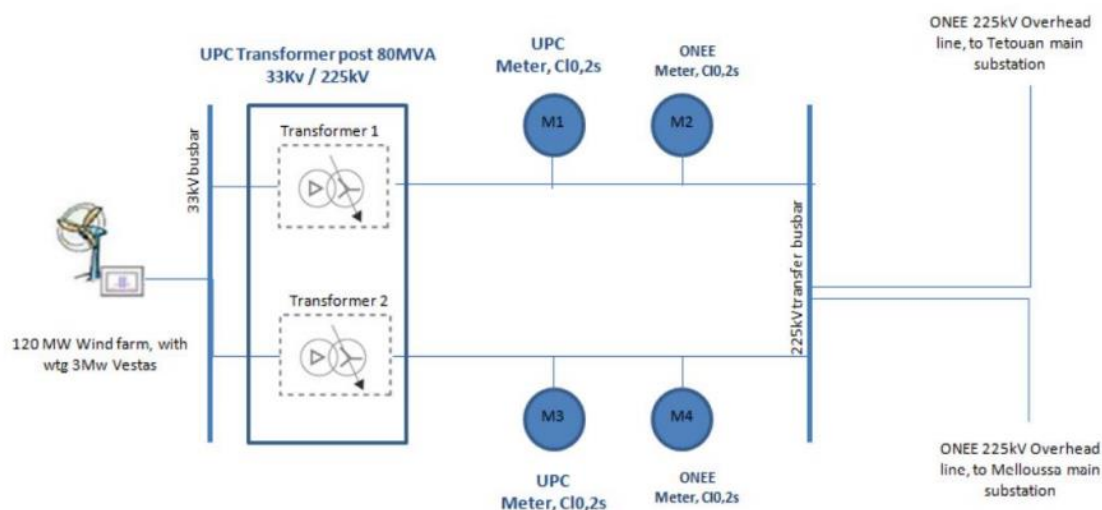
- Wind plant manager; manage the work of the CDM monitoring team and take charge of all relevant matters with the monitoring activity
- Monitoring manager: monitor, collect and archive the data according to the monitoring plan
- Audit manager: audit the work of monitoring manager and execute the quality control and quality assurance (QA/QC) procedure according to the monitoring plan.
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d) Monitoring Equipment, installation, and Calibration

"Khalladi" wind farm uses electrical transformers located at the turbines base to boost the electricity generated at a low voltage 690V to medium voltage 33 KV. All transformers are linked by 33 KV underground cables to the two 33/225 KV step-up transformer located at the project substation. The energy that is generated is then transferred over two aerial 225 KV lines around 23km to two ONE substation located at the west of Tetouan city in Melloussa.

Two highly accurate bidirectional electricity meter for each step-up transform are used: a main meter and a back-up meter will be installed at each of the 33/225 KV step up transformer allowing to monitor the net electricity supplied to the grid.

The accuracy of the above-mentioned electric meter is 0.2s. The installation and metering will be in accordance with the International Electro Technical Commission (IEC) and ONEE standard. The following diagram shows the position of the meters that will be used to monitor the electricity generated and the net electricity exported to the national grid. On each of the 225KV side of the two transforms on the project site there are two main electricity PP meter (M1 and M3, class 0.2s) and two additional ONEE meter are also placed on the two electricity lines (M2 and M4, class 0.2s).



The four electricity meters are bidirectional measuring the net electricity export to the national grid (gross electricity export to the grid minus the electricity imports for the use of the wind farm auxiliaries).

The electricity meter will be installed and sealed by the Office National d'Electricite et de l'Eau Potable (ONEE), which is the public utility that the monopoly of the national electricity grid development and management. It will serve as the basis of the electricity supplier and electricity imports accounting. The bidirectional ONEE electricity meters are regularly checked and calibrated by ONEE according to its official maintenance and calibration procedures. The electricity meter are property of ONEE. The meters shall undergo testing and calibration are carried out by ONEE at least once a year.

The PP meters may be inspected at any reasonable time by ONEE on the project participants request. If during any test the accuracy of the meters fails to meet the standards specified by the International Electrotechnical Commission, ONEE shall repair or recalibrate the meters and if its necessary to replace the meter.

If the error of the main meter is out of the permissible limits or if the main meter has malfunction, the data of the backup meter will be referenced. During this monitoring period the main check meter were working satisfactory.

Meters will be jointly inspected, sealed or calibrated on behalf of the parties concerned and shall not be interfered with by either party (such as removing, replacing, disassembling, sealing, seal-breaking, accident treatment etc), except in the presence of other party or its accredited representatives.

ONEE who are responsible of calibration, have done the electricity meter calibration for year 2018 and 2019 as shown below:

	Meter 1	Meter 2	Meter 3	Meter 4
Number	02826265	02826266	02826267	02826268
Make	Elster	Elster	Elster	Elster
Model	A1800	A1800	A1800	A1800
Accuracy	2%	2%	2%	2%



Class				
Calibration Frequency	Annual	Annual	Annual	Annual
Calibration Date	20/04/2019	20/04/2019	20/04/2019	20/04/2019
Type	Main meter	Check Meter	Main Meter	Check Meter

Meter calibration for year 2020, has not been fulfilled due to Covid-19. Moreover, ONEE has decided that the meter calibration will be done every two years, which will be undertaken mid of 2021.

Within the monitoring period, the model and make has changed.

e) Data collection and management

The double meter reading of the net supplied electricity to the grid will be transmitted electronically to the PP's monitoring computer and recorded every 24hours. The daily meter reading data will be processed and stored electronically in a computer system with regular backup copy on a digital basis complemented by printed versions of the monthly electricity exports.

As internal monitoring audit will be undertaken at the crediting period start up and routinely afterward as needed. Following the internal audit, the electronic data would be used in a spreadsheet procedure in order to calculate emission reduction. The original data, the calculation procedure and resulting emission reduction will be verified internally before the established of the monitoring report and the DOE verification.

f) Training and Monitoring Procedures

The project participant will entrust the professional engineers and experts to train all the relative staff. The training contains CDM knowledge, operational regulations and quality control standard flow, data monitoring requirement and data management regulation.

The monitoring procedure will be defined in a monitoring manual that include, in particular: (i) staff organization with job description, (ii) instruction for data transfer and record handling protocols, and (iii) calibration checking procedures for the measuring equipment. This manual will be updated regularly according to the latest applicable EB monitoring recommendations and the recurrent corrective actions undertaken.

A constant internal audit is being conducted to ensure quality control and to check the reliability and security of these monitoring. Type of audits operational audit, financial audit, HSE audit and administrative audits. some of the observation which were find during the audit; risk management update, more traffic signs to be installed on site, housekeeping, and finally share the status of the observation report closure, inspections and overdue actions.

Following these audits, corrective actions will be decided, if necessary. In addition to periodic meetings, additional technical meetings among the technical team of the wind farm will be held, if necessary, in order to define the monitoring corrective actions to be carried out. Any corrective actions taken will be documented in case of equipment or system malfunction on breakdown.

Regular site audits will be made to ensure that monitoring and operational procedure are being observed in accordance with the monitoring plan.

All the data will be archived until two years after the end of the crediting period or the last issuance whichever is later.

**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>	<b>FC<sub>i,m,y</sub></b>
Unit	T
Description	Amount of fossil fuel type <i>i</i> consumed by power plant / unit <i>m</i> feeding the grid, in year <i>y</i>
Source of data	ONEE official data
Value(s) applied	See Annex 3 of the registered PDD
Choice of data or measurement methods and procedures	-
Purpose of data/parameter	Calculation of grid emission factor/Baseline emissions
Additional comments	-

<b>Data/Parameter</b>	<b>EG<sub>m,y</sub></b>
Unit	MWh
Description	Net electricity generated by power plant/unit <i>m</i> in year <i>y</i>
Source of data	ONEE official data
Value(s) applied	See Annex 3 of the registered PDD
Choice of data or measurement methods and procedures	-
Purpose of data/parameter	Calculation of grid emission factor/Baseline emissions
Additional comments	-

<b>Data/Parameter</b>	<b>NCV<sub>i</sub></b>
Unit	GJ/t
Description	Net calorific value (energy content) per mass or volume unit of fuel <i>i</i>
Source of data	Specific NCVs power plant values when available Official Statistical book Annuaire des Statistiques - 2007 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value(s) applied	See Annex 3 of the registered PDD
Choice of data or measurement methods and procedures	According to the Tool to Calculate the Emission Factor for an Electricity System (version 02.2.1), values provided by the fuel supplier of the power plants in invoices shall be used if data is collected from power plant operators. Otherwise the national average default value shall be used if values are reliable and documented in regional or national energy statistics / energy balances. If not, and only then, IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories shall be used.
Purpose of data/parameter	Calculation of grid emission factor/Baseline emissions
Additional comments	-

<b>Data/Parameter</b>	<b>EF<sub>CO2,i</sub></b>
Unit	tCO2/TJ
Description	Carbon emission factor per unit of energy of the fuel <i>i</i>
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value(s) applied	See Annex 3 of the registered PDD
Choice of data or measurement methods and procedures	According to the Tool to Calculate the Emission Factor for an Electricity System (version 02.2.1), the national average default value shall be used if values are reliable and documented in regional or national energy statistics / energy balances. Otherwise IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in Table 1.4 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories shall be used.
Purpose of data/parameter	Calculation of grid emission factor/Baseline emissions
Additional comments	

## D.2. Data and parameters monitored

(Copy this table for each data or parameter.)

<b>Data/Parameter</b>	<b>EG<sub>facility,y</sub></b>
Unit	MWh
Description	Quantity of net electricity generation supplied by the project activity to the grid
Measured/calculated/default	Measured and calculated
Source of data	Electricity meter
Value(s) of monitored parameter	2018 – total energy production starting from July- 177,712 MWh 2019- total energy production- 415,161 MWh 2020- total energy production from January 2020 - June 2020-187,857 MWh Total 780,730 MWh

Monitoring equipment	Electricity Meter				
		Meter 1	Meter 2	Meter 3	Meter 4
	Number	02826265	02826266	02826267	02826268
	Make	Elster	Elster	Elster	Elster
	Model	A1800	A1800	A1800	A1800
	Accuracy Class	2%	2%	2%	2%
	Calibration Frequency	Annual	Annual	Annual	Annual
	Calibration Date	20/04/2019	20/04/2019	20/04/2019	20/04/2019
	Type	Main meter	Check Meter	Main Meter	Check Meter
Measuring/ reading/ recording frequency	Data measured continuously basis and recoded on a daily and monthly basis				
Calculation Method (If applicable)	NA				
QA/QC Procedure	Net electricity supplied by the project activity to the grid. Double checked by the monthly accounting receipts established by ONEE. The authorized representatives of the Project Participant and ONEE have the right to propose testing inspection and calibration of meters. If the accuracy of meters does not meet the standards specified by the International Electro technical Commission (IEC), ONEE repairs or recalibrates the meters, and, if necessary, replaces the meter. If the tests indicate that the meter has a degree of inaccuracy higher than 0.2s the electricity production of the Project activity is adjusted retroactively in compliance with an agreement set between ONEE and the Project participant				
Purpose of data/ parameter	Calculation of baseline emissions				
Additional Comment	NA				

### 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

&gt;&gt;

$$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$$

Where:

$EG_{PJ,y}$  = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year  $y$  (MWh)

$EF_{grid,CM,y}$  = Combined margin CO2 emission factor for grid connected power generation in year  $y$  calculated using the "Tool to calculate the emission factor for an electricity system" (tCO2/MWh).

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EF <sub>grid,CM,y</sub>	Combined Margin Grid Emission Factor Calculated under Annex 3 of the registered PDD	0.48620	Unit: tCO <sub>2</sub> /MWh
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Year 2018	Quantity of Electricity Generated (MWh)	Combined Margin Grid Emission Factor	Baseline emissions
		EF <sub>grid,CM,y</sub>	BE <sub>y</sub>
July	17,317	0.4862	8,419
August	35,797	0.4862	17,404
September	33,822	0.4862	16,444
October	30,714	0.4862	14,933
November	27,643	0.4862	13,440
December (2018)	32,419	0.4862	15,762
<b>Total</b>	<b>177,712</b>	<b>0.4862</b>	<b>86,403</b>

Year 2019	Quantity of Electricity Generated (MWh)	Combined Margin Grid Emission Factor	Baseline emissions
		EF <sub>grid,CM,y</sub>	BE <sub>y</sub>
January	35,900	0.4862	17,454
February	37,845	0.4862	18,404
March	44,641	0.4862	21,704
April	35,140	0.4862	17,085
May	37,992	0.4862	18,471
June	24,452	0.4862	11,888
July	27,391	0.4862	13,317
August	32,769	0.4862	15,932
September	24,326	0.4862	11,827
October	23,720	0.4862	11,532
November	41,848	0.4862	20,346
December	45,132	0.4862	21,943
<b>Total</b>	<b>415,161</b>	<b>0.4862</b>	<b>201,851</b>

Year 2020	Quantity of Electricity Generated (MWh)	Combined Margin Grid Emission Factor	Baseline emissions
		EF <sub>grid,CM,y</sub>	BE <sub>y</sub>
January (2020)	26,753	0.4862	13,007
February	29,715	0.4862	14,447
March	34,940	0.4862	16,988
April	36,176	0.4862	17,588
May	30,221	0.4862	14,693
June)	30,052	0.4862	14,611
<b>Total</b>	<b>187,857</b>	<b>0.4862</b>	<b>91,336</b>

Total baseline emission for the complete monitoring period: 379,590 tCO<sub>2</sub>

**E.2. Calculation of project emissions or actual net removals**

&gt;&gt;

As per the registered PDD, project emissions are zero.

$$PE_y = 0$$

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

&gt;&gt;

As per the registered PDD, project emissions are zero.

$$LE_y = 0$$

**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>	379,590	0	0	0	379,590	379,590

**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 for this monitoring period in the PDD (t CO <sub>2</sub> e)
379,590	287,920

**Total quantity of electricity generated in Mwh**

Year	Mwh
2018 starting from 1 <sup>st</sup> July	177,712
2019	415,161
2020 up until June 30 <sup>th</sup>	187,857
<b>Total</b>	<b>780,730</b>

**Total tCO<sub>2</sub>e reduction per-year**

Year	Amount of reduction achieved in tCO <sub>2</sub> e
2018	86,403
2019	201,851
2020	91,336
<b>Total</b>	<b>379,590</b>

**E.5.1. Explanation of calculation of “amount estimated ex ante for this monitoring period in the PDD”**

&gt;&gt;

Annual estimated ex-ante emission reduction as per the registered PDD are 143,960 tCO<sub>2</sub>. Since the monitoring period is for 2 years, the estimated ex-ante emission reduction for the monitoring period i.e. 01/07/2018 to 30/06/2020 is 287,920 tCO<sub>2</sub>.

**E.6. Remarks on increase in achieved emission reductions**

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The amount achieved in this monitoring period is 379,590 tCO<sub>2</sub>e and the amount estimated ex ante for the monitoring period is 287,920 tCO<sub>2</sub>. The reason for increase is as follows:

- Natural reason, as the availability of wind could high which will require the turbines to generate more electricity.

**E.7. Remarks on scale of small-scale project activity**

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This project is considered as a large-scale project rather than a small scale

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**Document information**

<i>Version</i>	<i>Date</i>	<i>Description</i>
07.0	31 May 2019	Revision to: <ul style="list-style-type: none"> <li>• Ensure consistency with version 02.0 of the “CDM project standard for project activities” (CDM-EB93-A04-STAN);</li> <li>• Add a section on remarks on the observance of the scale limit of small-scale project activity during the crediting period;</li> <li>• Add "changes specific to afforestation or reforestation project activity" as a possible post-registration changes;</li> <li>• Clarify the reporting of net anthropogenic GHG removals for A/R project activities between two commitment periods;</li> <li>• Make editorial improvements.</li> </ul>
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).



<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	28 May 2010	EB 54, Annex 34. Initial adoption.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: monitoring report		