BUNDLED WIND POWER PROJECT IN KOPPAL KARNATAKA

Document Prepared by Infinite Solutions

Project Title	Bundled Wind Power project in Koppal Karnataka
Version	03
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Date of Issue	20-07-2021
Project ID	1993
Monitoring Period	01-10-2019 to 31-12-2020
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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The project activity involves installation of 64 WTGs of 2.1 MW each, totaling 134.4 MW Wind power project in Karnataka.

The project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 313,130 tCO_2e per annum, thereon displacing 334,258MWh/year amount of electricity from the generation-mix of power plants connected to the Indian electricity grid, which is mainly dominated by thermal/ fossil fuel-based power plant. However, for already commissioned capacity in the project activity i.e., 107.1 MW, the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 266,634 tCO2e per annum, thereon displacing 284,623 MWh/year amount of electricity.
The project activity is the installation of a new grid-connected renewable power plant/unit and this is not a CPA that has been excluded from a registered CDM PoA as a result of erroneous inclusion of CPAs.

The details of the project are mentioned in the table:

Name of Project Developer	WTG Capacity	No. of WTGs	Project Capacity	Commissioned Capacity	Location
Skeiron Renewable Energy Kushtagi Private Limited	2.1 MW/WTG	24	50.4	50.4	Koppal District & Bagalkot district, Karnataka
Saroja Renewables Limited	2.1 MW/WTG	25	52.5	35.7	Bagalkot district, Karnataka
Shanay Renewables Ltd.	2.1 MW/WTG	15	31.5	21	Kushtagi, Koppal District
Total		**64**	**134.4 MW**	**107.1 MW**	

All the WTGs in this project activity were commissioned in phases in March 2018. The earliest commissioning was on 02-Mar-2018. The total capacity already commissioned is 107.1 MW and the details are as follows:

Shanay Renewables Ltd.			Total Capacity
Metering Loc.	WTG Loc. No.	Comm. Dates	21 MW
KST -131	90, 131	28-03-2018 & 31-03-2018	
KST-130	95, 97, 42, 75, 96, 128, 130, 72	28-03-2018 & 31-03-2018	
Saroja Renewables Limited			Total Capacity
Metering Loc.	*WTG Loc. No.*	Comm. Dates	35.7
KST – 51	51	28-03-2018	
KST – 67	65, 67, 105, 106, 122	28-03-2018	
KST – 67	66, 103, 121	31-03-2018	
KST – 71	47, 48, 70, 71, 124, 46, 49, 68	28-03-2018	
Skeiron Renewable Energy and Kushtagi Private Limited			Total Capacity
Metering Loc.no.	WTG Loc. No.	Comm. Dates	50.4 MW
KST - 147	100, 126, 152, 153, 154, 155	02-03-2018	
KST - 147	99, 147, 98, 123, 125	02-03-2018	
KST - 177	177, 148, 149, 188, 189, 233, 234, 235	02-03-2018	
KST - 177	191, 236	31-03-2018	
KST - 230	230	31-03-2018	
KST - 101	101, 102	31-03-2018	

The monitoring period is from 01-10-2019 to 31-12-2020. The total GHG emission reductions generated in this monitoring period are 313,130 tCO2 displacing thereon.

Scenario existing prior to the implementation of project activity:

The scenario existing prior to the implementation of the project activity, is electricity delivered to the grid by the project activity that would have otherwise been generated by the operation of grid- connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system" Version 7.0 EB 100 Annex 4.

Baseline Scenario:

As per the applicable methodology, a Greenfield power plant is defined as "a new renewable energy power plant that is constructed and operated at a site where no renewable energy power plant was operated prior to the implementation of the project activity".

As the project activity falls under the definition of a Greenfield power plant, the baseline scenario as per paragraph 24 of Section 5.2.1 of applied methodology is the following:
If the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".
Hence, pre-project scenario and baseline scenario are the same.

1.2 Sectoral Scope and Project Type

The project activity falls under the following Sectoral scope and Project Type:

Sectoral Scope: 01 - Energy industries (renewable / non-renewable sources) Project

Type: I - Renewable Energy Projects

Methodology: ACM0002: Grid-connected electricity generation from renewable sources - Version 19.0[1]

The project is not a grouped project activity.

[1] https://cdm.unfccc.int/UserManagement/FileStorage/58IAGB7SZUDEO2VN6LYM30K41HFPRQ

1.3 Project Proponent

Organization name	Skeiron Renewable Energy Kushtagi Private Limited
Contact person	Murali Krishnam Raju M
Title	Senior Manager - Commercial
Address	Plot No. #1131/A, Road no. 36 Jubilee Hills, Hyderabad – 500033. Telangana, India.
Telephone	+91 40 40301004
Email	muraliraju.m@greenkogroup.com

Organization name	Saroja Renewables Limited
Contact person	Murali Krishnam Raju M
Title	Senior Manager - Commercial
Address	Plot No. #1131/A, Road no. 36 Jubilee Hills, Hyderabad – 500033. Telangana, India.
Telephone	+91 40 40301004
Email	muraliraju.m@greenkogroup.com

Organization name	Shanay Renewables Ltd.
Contact person	Murali Krishnam Raju M
Title	Senior Manager - Commercial
Address	Plot No. #1131/A, Road no. 36 Jubilee Hills, Hyderabad – 500033. Telangana, India.
Telephone	+91 40 40301004
Email	muraliraju.m@greenkogroup.com

1.4 Other Entities Involved in the Project

Organization name	Infinite Solutions
Role in the Project	Project Consultant
Contact person	Richa Thakur
Title	Manager - Operations
Address	214-215 Milinda Manor, Opp. Next Treasure Island, 2 RNT Marg, Indore – 452001.
Telephone	+91- 9589804304
Email	richa@infisolutions.org

1.5 Project Start Date

Project Start Date: 02-03-2018;

The project start date is the earliest commissioning date amongst all the project WTGs which are part of this Large Scale Wind power project.

1.6 Project Crediting Period

Crediting Period Start date: 02-03-2018

Crediting Period End date: 01-03-2028

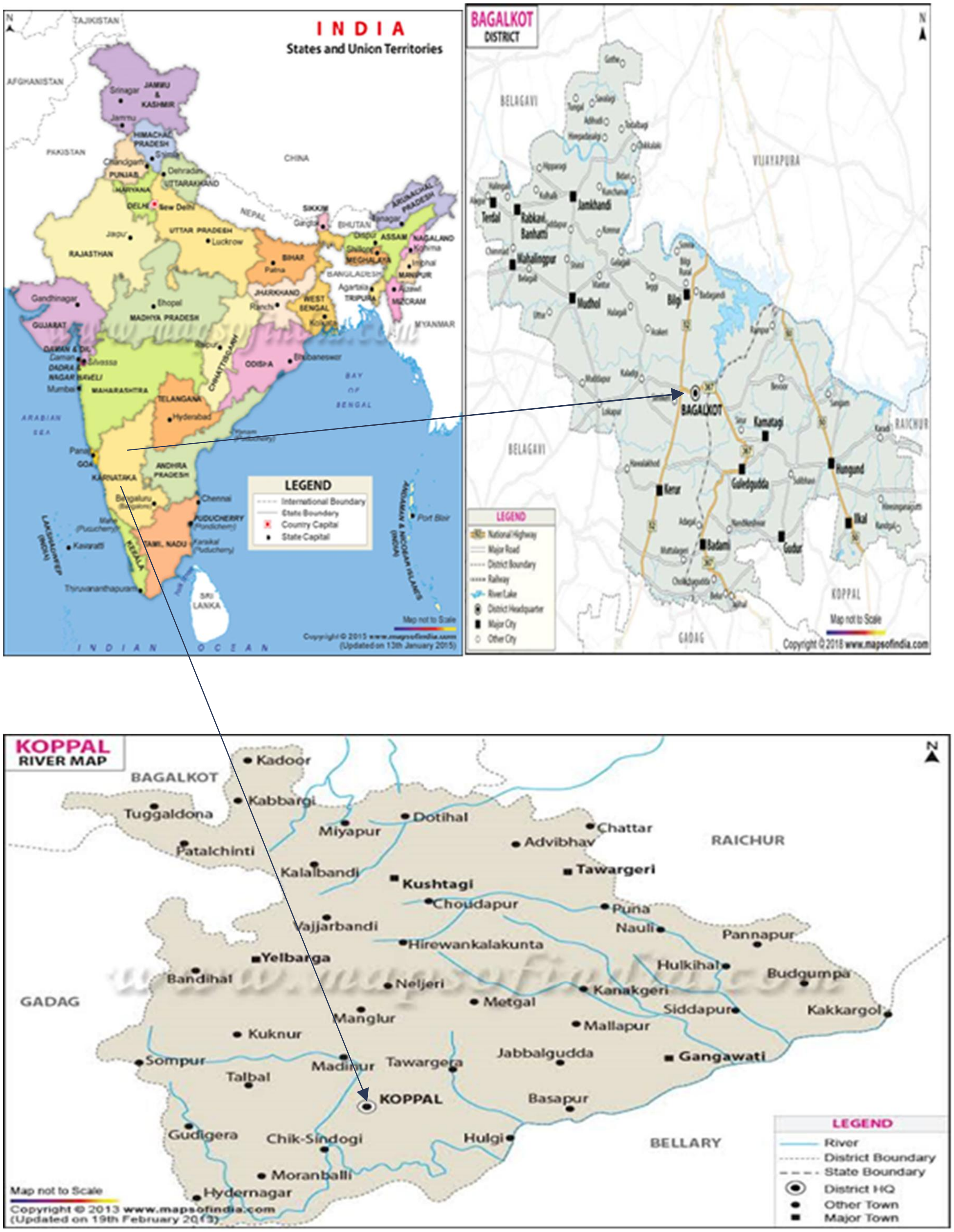
Estimated life time of the project: 25 years

The project activity adopts renewable crediting period with the first crediting period of 10 years and with an option to renew twice, considering the lifetime of the project activity to be 25 years

1.7 Project Location

The WTGs installed by the project proponent are distributed across the Bagalkot & Koppal District of Karnataka.

Details of Project coordinates is mentioned in the Appendix 3 of this MR.


INDIA
States and Union Territories
LEGEND
International Boundary
State Boundary
Country Capital
State Capital
INDIAN OCEAN
BAY OF BENGAL
ARABIAN SEA
KARNATAKA
Map not to Scale
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(Updated on 13th January 2015)
BAGALKOT
DISTRICT
BELAGAVI
VIJAYAPURA
RAICHUR
KOPPAL
GADAG
BAGALKOT
Jamkhandi
Mudhol
Bilgi
Kamatagi
Hungund
Guledgudda
Kerur
Badami
Ilkal
Gudur
LEGEND
National Highway
Major Road
District Boundary
Railway
River/Lake
District Headquarter
Major City
Other City
Map not to Scale
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KOPPAL
RIVER MAP
BAGALKOT
RAICHUR
GADAG
BELLARY
Kadoor
Kabbargi
Tuggaldona
Patalchinti
Miyapur
Dotihal
Chattar
Advibhav
Kalalbandi
Kushtagi
Tawargeri
Choudapur
Puria
Nauli
Pannapur
Vajjarbandi
Hirewankalakunta
Yelbarga
Hulkihal
Budgumpa
Bandihal
Neljeri
Kanakgeri
Metgal
Siddapur
Kakkargol
Manglur
Mallapur
Kuknur
Jabbalgudda
Gangawati
Sompur
Madinur
Tawargera
Talbal
KOPPAL
Basapur
Gudigera
Chik-Sindogi
Hulgi
Moranballi
Hydernagar
LEGEND
River
District Boundary
State Boundary
District HQ
Other Town
Major Town
Map not to Scale
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(Updated on 19th February 2013)

1.8 Title and Reference of Methodology

Methodology:

ACM0002: Grid-connected electricity generation from renewable sources --- Version 19.0, Sectoral Scope: 01, EB 100, Annex 6
https://cdm.unfccc.int/methodologies/DB/VJI9AX539D9MLOPXN2AY9UR1N4IYGD

The project activity also takes reference from following Tools from the tools prescribed by applied methodology:

1. Tool for the demonstration and assessment of additionality --- Version 07.0.0, EB 70,

   Annex 8

   https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf

2. Tool to calculate the emission factor for an electricity system --- Version 07.0, EB 100,

   Annex 4

   https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf

1.9 Participation under other GHG Programs

Not Applicable, as the project activity is not registered with any other program.

The undertaking from PP has been submitted for no any double accounting for current monitoring period and project activity is not participated any other GHG program other than VCS.

1.10 Other Forms of Credit

Emissions Trading Programs and Other Binding Limits

Net GHG emission reductions or removals generated by the Project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions in any Emission Trading program or other binding limits.

Other forms of Environmental Credit

The Project has no intend to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program. The project activity is not availing any REC benefits and the same can be confirmed from publicly available link of REC generators.

Web-link: https://www.recregistryindia.nic.in/index.php/general/publics/registered_regens

Project Proponent has also submitted undertaking for not availing other forms of environmental credit for the same crediting period under consideration.

1.11 Sustainable Development

Contribution to sustainable development:

Ministry of Environment, Forests and Climate Change, GoI, has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. The project contributes to sustainable development using the following ways.

- Social well-being: The project would help in generating employment opportunities during the construction and operation phases. The project activity will lead to development in infrastructure in the region like development of roads and also may promote business with improved power generation.
- Economic well-being: The project is a clean technology investment in the region, which would not have been taken place in the absence of the VCS benefits the project activity will also help to reduce the demand supply gap in the state.

  The project activity will generate power using zero emissions wind energy based power generation which helps to reduce GHG emissions and specific pollutants like SOx, NOx, and SPM associated with the conventional thermal power generation facilities.
- Technological well-being: The successful operation of project activity would lead to promotion of wind power generation and would encourage other entrepreneurs to participate in similar projects.
- Environmental well-being: Wind being a renewable source of energy, it reduces the dependence on fossil fuels and conserves natural resources which are on the verge of depletion. Due to its zero emission the Project activity also helps in avoiding significant amount of GHG emissions.

2 SAFEGUARDS

2.1 No Net Harm

The project activity does not involve any major construction activity. It primarily requires the installation of the WTGs, interfacing the generators with the State Electricity Board by setting up HT transmission lines and installation of other accessories.

The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013. This report clearly mentioned that

wind project activity operations do not result in direct air pollution, noise pollution. Please refer below web link for the same[2].

Thus there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity. There were no socio-economic impacts identified from the project and hence no mitigations measures are applicable.

2.2 Local Stakeholder Consultation

The project has already been registered under VCS mechanism.

The stakeholders of the project activity were invited to attend the stakeholder meeting on 20/01/2018. Personal invitations were also sent to the prominent members of the regions in the vicinity along with public display of invitation letters.

A stakeholder meeting was held on 25/01/2018 involving the local stakeholders at the project site. The meeting was attended by local villagers, panchayat members, shopkeepers, suppliers, vendors and representatives of PPs. The stakeholders were explained about the project activity and the various benefits arising out of the project activity. A discussion was held in which the views of the local stakeholders were addressed.

Nevertheless, PP is open for the continuous stakeholder interaction and formed a grievance/suggestion register and a grievance box placed at the project site for the comments at any point of time during the project crediting period. PP has explained this mechanism to the local stakeholders and transparently kept the notice mentioning the grievance register and box at the project site. No issues and grievance for the project activity has been identified during the current monitoring period

2.3 AFOLU-Specific Safeguard

Not applicable to this as this is not an AFOLU project activity.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project activity involves the installation of Wind project. The total installed capacity of the project is 134.4 MW Wind project located in Karnataka state in India.

[2] https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf

The Project activity is a new facility (Greenfield) and the electricity generated by the project will be exported to the Indian electricity grid. The project will therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. The Project Proponent plans to avail the VCS benefits for the project. The plant was commissioned on 02-03-2018 and it running smoothly with specific schedule maintenance works. In the Pre-project scenario, the entire electricity, delivered to the grid by the project activity, would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources. No any changes occurred during the current monitoring activity which can alter the design of the project activity. No change in project proponent or other entity. The details are same as the registered PDD.

The project installs Suzlon make WTGs of individual capacity 2.1 MW. The salient Features of Suzlon S- S111-2.1 MW WTG are as Follows: -

Parameter	**Specifications**
	2.1 MW -Suzlon
Rotor	
Installed electrical output	2100 kW
Diameter	111.8 m
Cut-in wind speed	3 m/s
Rated wind speed	12.5 m/s
Cut-out wind speed	30 m/s
Rotor swept area	9852 m2
Regulation	Pitch
Type	Asynchronous, 3 Phase Induction
Rated output	2100 kW
Operating voltage	690 V
Frequency	50 Hz / 60 Hz

3.2 Deviations

2.3.1 Methodology Deviations

No methodology deviation is applied during the monitoring period.

2.3.2 Project Description Deviations

No deviation has taken place in project description during the monitoring period.

3.3 Grouped Projects

The project is not a grouped project thus this is not applicable.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	$EF_{grid,OM,y}$
Data unit	tCO_2/MWh
Description	Operating Margin CO_2 emission factor in year y
Source of data	Calculated from CEA database, Version 14, December 2018[11]
Value applied	0.9610(Indian Grid)
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per "Tool to calculate the emission factor for an electricity system, version 07.0.0" as 3-year generation weighted average using data for the years 2015-16, 2016-17 & 2017-18. The data are obtained from "CO2 Baseline Database for Indian Power Sector" version 14.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	$EF_{grid,BM,y}$
Data unit	tCO_2/MWh
Description	Build Margin CO_2 emission factor in year y
Source of data	Calculated from CEA database, Version 14, December 2018
Value applied	0.8644 (Indian Grid)
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per "Tool to calculate the emission factor for an electricity system, version 07.0.0" as 3-year generation weighted average using data for the years 2017-18. The data are obtained from "CO_2 Baseline Database for Indian Power Sector" version 14.0, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission

Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	$EF_{grid,CM,y}$
Data unit	tCO_2/MWh
Description	Combined Margin CO_2 emission factor in year y
Source of data	Calculated from CEA database, Version 14, December 2018
Value applied	0.9368 (Indian Grid)
Justification of choice of data or description of measurement methods and procedures applied	The combined margin emissions factor is calculated as follows: $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid, BM,y} * W_{BM}$ Where: $EF_{grid,BM,y}$ = Build margin CO_2 emission factor in year *y* (tCO_2/MWh) $EF_{grid,OM,y}$ = Operating margin CO_2 emission factor in year *y* (tCO_2/MWh) WOM = 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	MWh
Description	Electricity supplied to Grid
Source of data	Form B electricity generated sheet from State Electricity Board .
Description of measurement methods and procedures to be applied	Net electricity generated will be calculated at the main meter connected to the Grid Substation. The procedures for metering will be as per the provisions of the power purchase agreement. The WEGs of a single customer (individual PPS) at a particular site are connected to a to a feeder that ultimately leads to the main meter at the substation maintained by O&M team.

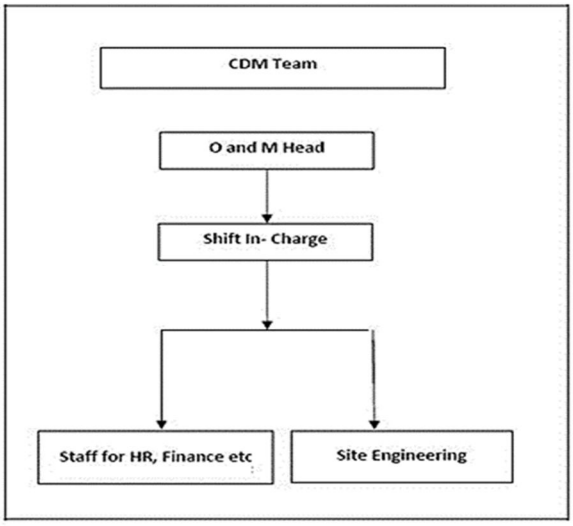
	Data monitoring takes place at the metering yard and Main meter at the substation. The electricity metered at the main meter is proportionally divided among the customers connected to the meter on the basis of the pro-rata readings taken at the individual WTGs. The emission reduction calculations are done on the basis of the Main meter reading (net electricity exported to the grid) after deducting imports from the grid as mentioned in the share certificate issued on monthly basis. Net electricity exported= Export-115%Import- Transmission loss The electricity measurements at main meter are continuous and recorded on monthly basis.
Frequency of monitoring/recording	Continuous measurement and at least monthly recording
Value monitored	334,258
Monitoring equipment	Electricity Meters of 0.2s Class
QA/QC procedures to be applied	Calibration of all the meters will be undertaken at required intervals and faulty meters will be duly replaced immediately based on CEA guidelines which specifies calibration once in 5 years. The data will be cross checked with sales receipts.
Purpose of the data	Calculation of Baseline emissions
Calculation method	N/A
Comments	The data will be archived electronically for two years after the end of the last crediting period or the last issuance of VERs for this project activity, whichever occurs later.

4.3 Monitoring Plan

The project proponents at the power station have a procedure to ensure proper monitoring of the VCS project activity. The project activity has installed monitoring and control equipment that measure, record, report, monitor and control various key parameters.

The monitoring plan, implemented by the project participant describes about the monitoring organisation, parameters to be monitored, monitoring practices, quality assurance, quality control procedures, data storage and archiving.

The authority and responsibility for registration, monitoring, measurement, reporting and reviewing of the data rests with the project participant. PP proposed the following structure for data monitoring, collection, data archiving and calibration of equipments for this project activity. The team comprises of the following members:



Responsibility
• Reviewing the monthly and annual generation statistics. • Evaluating the GHG performance of the project activity. • Identifying the opportunities for future improvement • Addressing grievance related to project activity.
• Implementation of corrective appropriate measures in case any discrepancies are identified in the reported parameters. • Review of monthly report. • Ensuring calibration of monitoring equipment as and when required.
• Monitoring and reporting the GHG performance related parameters following the guidance provided in the project design document • Preparation of monthly and annual generation statistics. • Reporting of any discrepancies identified in the reporting parameters. • Ensuring calibration of the monitoring equipments as and when required.

The methodology requires monitoring of the net electricity supplied from the project activity.

The proponent shall maintain complete and accurate records and all other data required for the purpose of proper administration and operation of the wind power project. The data will be kept for at least 2 years after the end of the crediting period.

1. Purpose - The purpose of monitoring the project is to assess the annual emission reductions in tones of CO_2 that the project activity has achieved.

2. Data to be reported - $EG_{PJ,y}$ in MWh and periodical calibrations of monitoring equipment's.

3. Monitoring times and periods - The data will be monitored on a continuous basis but will be recorded on a monthly basis with the energy meters installed at the site.

4. Data Accuracy - Metering Arrangement of the Power Purchase Agreement (PPA) the metering arrangement including its installation, testing, maintenance and collection transportation and processing of data required for energy exchange shall be governed as per the notification/ directives issued/or to be issued by Central Electricity Regulatory Commission and as per relevant provisions contained in IEGC as amended from time to time. The Central Electricity Authority (CEA) notification regarding Installation and Operation of meters' regulations, 2006,

says that meters are required to be tested once in 5 years (refer clause 18 of the guideline) 12. Thus, the meters recording the electricity exported will be calibrated at least once 5 years.

5. Emission Reduction Calculation Approach - The emission reductions are calculated as a product of the net electricity generated from the project activity and the combined margin emission factor. The calculation approach is explained in detail under section 3 of this document.

6. Approach to be followed in following cases:

   In case monitoring period is between the billing cycles, pro rata calculation for the number of days in the monitoring period shall be estimated for emissions reduction calculation.

7. Emergency preparedness

   The project activity will not result in any unidentified activity that can result in substantial emissions from the project activity. No need for emergency preparedness in data monitoring is visualized.

8. Personnel training

   In order to ensure a proper functioning of the project activity and a properly monitoring of emission reductions, the staff were trained. The plant helpers are trained in equipment operation, data recording, reports writing, operation and maintenance and emergency procedures in compliance with the monitoring plan.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

As per the approved consolidated Methodology ACM0002 (Version 18.1) para 42:

Baseline emissions include only CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-

connected power plants and the addition of new grid- connected power plants. The baseline emissions are to be calculated as follows:

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

Where:

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

$EG_{PJ,y}$ = 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/yr)

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

Therefore,

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

= 334,258 x 0.9368
= 313,130

5.2 Project Emissions

Not Applicable, since emissions from the project activity is zero as per ACM0002 methodology.

5.3 Leakage

Not Applicable, since emissions from the project activity is zero as per ACM0002 methodology.

5.4 Net GHG Emission Reductions and Removals

The Formula used to calculate the net emission reduction for the project activity is

$$ER_Y = BE_y - PE_y$$

Where,
ER_y = Emission Reduction in tCO_2/year
BE_y = Baseline emission in tCO_2/year
PE_y = Project emissions in tCO_2/year

For the project activity during the current monitoring period, as per section 5.1

BE_y= 313,130tCO_2e

PE_y = 0 tCO_2e

LE_y = 0 tCO_2e

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)
01-october-2019 to 31-December-2019	47,262	0	0	47,262
01-January-2020 to 31-December-2020	265,868	0	0	265,868
Total	313,130	0	0	313,130

The estimated emission reduction for this monitoring period i.e., 458 days works out to be 334,571 tCO2 and emission reductions achieved during this monitoring period are 313,130 tCO2 which is 6.85% lower than the estimated emission reduction as per registered VCS-PD.

PLF and Generation of the project activity are subjected to variations year on year. The current period chosen though reflects almost 1.25 years and the estimated PLF chosen is yearly basis.
The variation in wind speed and density during the monitoring period has yielded in lower generation and thereby resulting a less plant load factor (PLF).
Moreover, less emission reductions are not breaching the benchmark.

APPENDIX 1: CALIBRATION RECORDS

Skeiron Renewable Energy Kushtagi Private Limited				
	Main	Check	Calibration Date	Due Date of calibration
KST147	16112943	16112944	20.07.2018	19.07.2023
KST177	16112934	16112937	20.07.2018	19.07.2023
KST101	18015394	18015396	20.07.2018	19.07.2023
KST230	18015386	18015387	20.07.2018	19.07.2023

Saroja Renewables Limited				
	Main	Check	Calibration Date	Due Date of calibration
KST51	18015411	18015426	20.07.2018	19.07.2023
KST67	18015412	18015416	20.07.2018	19.07.2023
KST71	18015440	18015441	20.07.2018	19.07.2023

Shanay Renewables Ltd.				
	Main	Check	Calibration Date	Due Date of calibration
KST130	18015383	18015384	20.07.2018	19.07.2023
KST131	18015438	18015379	20.07.2018	19.07.2023

APPENDIX-2: WTG COORDINATES

Skerion WTG Location No

WTG ID	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	
KST098	15.00	55.00	1.18	N	76.00	10.00	56.69	E
KST099	15.00	55.00	18.07	N	76.00	10.00	55.78	E
KST100	15.00	55.00	36.86	N	76.00	10.00	53.80	E
KST101	15.00	54.00	40.72	N	76.00	15.00	42.32	E
KST123	15.00	55.00	51.57	N	76.00	11.00	40.67	E
KST125	15.00	54.00	45.33	N	76.00	12.00	36.97	E
KST126	15.00	54.00	27.38	N	76.00	12.00	46.92	E
KST147	15.00	53.00	42.58	N	76.00	13.00	36.41	E
KST148	15.00	54.00	19.33	N	76.00	13.00	51.50	E
KST149	15.00	54.00	23.17	N	76.00	13.00	18.10	E
KST152	15.00	55.00	28.71	N	76.00	13.00	11.26	E
KST153	15.00	55.00	38.44	N	76.00	12.00	48.45	E
KST154	15.00	55.00	53.58	N	76.00	12.00	35.26	E

KST155	15.00	56.00	14.49	N	76.00	12.00	18.97	E
KST177	15.00	53.00	50.92	N	76.00	14.00	26.29	E
KST188	15.00	53.00	15.44	N	76.00	15.00	19.90	E
KST189	15.00	53.00	42.34	N	76.00	15.00	21.52	E
KST191	15.00	52.00	55.13	N	76.00	15.00	43.78	E
KST230	15.00	54.00	22.74	N	76.00	16.00	2.65	E
KST233	15.00	54.00	2.66	N	76.00	17.00	4.56	E
KST234	15.00	53.00	49.30	N	76.00	17.00	1.96	E
KST235	15.00	53.00	31.31	N	76.00	17.00	6.69	E
KST236	15.00	52.00	55.12	N	76.00	16.00	50.86	E
KST102	15.00	55.00	2.48	N	76.00	15.00	50.43	E

SAROJA WTG Location No

WTG ID	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	
KST071	15.00	54.00	47.93	N	76.00	10.00	33.47	E
KST046	15.00	53.00	41.36	N	76.00	9.00	25.87	E
KST047	15.00	52.00	56.68	N	76.00	9.00	33.35	E

KST048	15.00	52.00	36.25	N	76.00	9.00	32.90	E
KST049	15.00	52.00	9.93	N	76.00	8.00	59.73	E
KST051	15.00	55.00	14.79	N	76.00	9.00	31.75	E
KST065	15.00	56.00	27.83	N	76.00	9.00	45.29	E
KST066	15.00	56.00	2.42	N	76.00	9.00	25.91	E
KST067	15.00	55.00	27.17	N	76.00	10.00	5.39	E
KST068	15.00	55.00	41.20	N	76.00	10.00	21.71	E
KST070	15.00	55.00	1.33	N	76.00	10.00	5.98	E
KST103	15.00	56.00	15.59	N	76.00	10.00	51.91	E
KST105	15.00	57.00	28.11	N	76.00	11.00	24.32	E
KST106	15.00	56.00	37.51	N	76.00	10.00	48.88	E
KST121	15.00	56.00	0.96	N	76.00	10.00	50.24	E
KST122	15.00	56.00	23.88	N	76.00	9.00	5.98	E
KST124	15.00	53.00	6.23	N	76.00	9.00	11.31	E

SHANAY WTG Location No

WTG ID	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	
KST072	15.00	54.00	29.32	N	76.00	10.00	40.06	E
KST075	15.00	52.00	6.47	N	76.00	11.00	21.12	E
KST090	15.00	52.00	50.70	N	76.00	11.00	1.47	E
KST095	15.00	54.00	7.41	N	76.00	11.00	22.30	E
KST096	15.00	51.00	44.55	N	76.00	11.00	24.55	E
KST097	15.00	54.00	34.51	N	76.00	11.00	18.52	E
KST128	15.00	51.00	24.03	N	76.00	10.00	40.66	E
KST130	15.00	53.00	44.67	N	76.00	11.00	16.62	E
KST131	15.00	53.00	22.60	N	76.00	13.00	8.18	E
KST042	15.00	51.00	25.02	N	76.00	11.00	32.37	E