PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (COU) PROJECT

Title: 5 MW Wind Project by NSL Renewable Power in Kappatgudda.

Version 1.0
Date 20/05/2022

First COU Issuance Period: 8 years, 04 months
Date: 01/01/2014 to 30/04/2022

Project Concept Note (PCN)
CARBON OFFSET UNIT (CoU) PROJECT

BASIC INFORMATION	
Title of the project activity	5 MW Wind Project by NSL Renewable Power in Kappatagudda.
Scale of the project activity	Small Scale
Completion date of the PCN	20/05/2022
Project participants	NSL Renewable Power Private Limited.
Host Party	India
Applied methodologies and standardized baselines	Applied Baseline Methodology: AMS-I.D : "Grid connected renewable electricity generation", version 18 Standardized Methodology: Not Applicable.
Sectoral scopes	01 Energy industries (Renewable/Non-Renewable Sources)
Estimated amount of total GHG emission reductions	To be estimated during verification [An ex-ante estimate is 8,760 COUs per year]

SECTION A. Description of project activity

A.1. Purpose and general description of Carbon offset Unit (CoU) project activity >>

The project titled as "5 MW Wind Project by NSL Renewable Power in Kappatagudda," is a grid connected wind power project located in village Harogeri, Gadag district in the state of Karnataka (India). The project is an operational activity with continuous reduction of GHG, currently being applied under "Universal Carbon Registry" (UCR).

Purpose of the project activity:

The project activity is promoted by "NSL Renewable Power Private Limited" (earlier designated under Nuziveedu Seeds Limited); hereinafter called as project proponent or PP, engaged in manufacturing of hybrid seeds and the power division is completely focusing on developing green power projects. With a view of being in line with sustainable development priorities of India, PP has promoted this project as a green power project through tapping of wind energy available in the existing barren land available in the state of Karnataka. The project activity is installation and operation of total 4 Wind Turbine Generators (WTGs) having individual machine capacity of 1.25 MW; manufactured and supplied by Suzlon Energy Limited. The total aggregated installed capacity is 5 MW and currently being operational in the village Harogeri, in Gadag district in the state of Karnataka (India).

The project activity harnesses kinetic energy of wind (renewable source) to generate electricity. It is capable to generate around 8,760 MWh per year, which is estimated based on operation with around 20% utilization factor with efficient utilization of the available wind energy through adoption of an efficient and modern technology. The net generated electricity from the project activity has been evacuated to regional grid under a long term power purchase arrangement with the Karnataka State Electricity Board (KSEB), where power is being sold to KPTCL Grid (Karnataka Power Transmission Corporation Limited). The project activity had been executed in three stages, with different capacities-wise bundles in each phase. The details along with commissioning period are as follows:

Capacity (MW)	Details (Nos., Type & Make)	Commissioning Date(s)
5	4 WTGs @1.25 MW Suzlon Wind Turbines	28-Sep-2006 & 30-Sep-2006

Sl. No.	Location#	Commissioning Date (COD)	Village	Taluka	District
1)	K-210	28-Sep-2006	Harogeri	Mundarigi	Gadag
2)	K-211	28-Sep-2006	Harogeri	Mundarigi	Gadag
3)	K-212	30-Sep-2006	Harogeri	Mundarigi	Gadag
4)	K-213	28-Sep-2006	Harogeri	Mundarigi	Gadag

The project activity was developed as a greenfield activity with no power generation facility existing at the project site in the pre-project scenario that can be attributed to the captive power requirement of PP. In the pre-project scenario equivalent amount of electricity would have been

generated and supplied from grid for the purpose of captive consumption, thus the power displaced by the project activity would have been otherwise generated from fossil fuel dominated thermal power plant and fed to the grid which is the current baseline for the project.

Hence, project activity is displacing the estimated annual net electricity generation i.e., 8,760 MWh from the southern grid (currently part of Unified Indian National Grid system), which otherwise would have been generated from fossil fuel based thermal power plant and exported to the national grid. The project activity doesn't involve any GHG emission sources. The estimated annual average CO_2e emission reduction by the project activity is expected to be 7,884 tCO_2e; whereas actual emission reductions achieved during the first CoU period shall be submitted as a part of first monitoring and verification.

Since the project activity will generate electricity through wind energy, a clean renewable energy source it will not cause any negative impact on the environment and thereby contributes to climate change mitigation efforts.

A.2 Do no harm or Impact test of the project activity>>

There are social, environmental, economic and technological benefits which contribute to sustainable development.

1. **Social benefits:**

- The primary social benefits of wind is due to its zero emissions of greenhouse gasses (GHGs) and criteria pollutants (CPs) related to fossil-fuelled generators at baseline CP reduction are valued by estimating how wind power reduces harm to human health and the environment.
- The project has helped generating direct and indirect employment benefits accruing out of ancillary units for manufacturing towers for erection of the Wind Turbine Generators (WTGs) and for maintenance during operation of the project activity.
- Wind turbines can be built on existing farms or ranches. This greatly benefits the economy in rural areas, where most of the best wind sites are found. Farmers and ranchers can continue to work the land because the wind turbines use only a fraction of the land. Wind power plant owners make rent payments to the farmer or rancher for the use of the land, providing landowners with additional income.

2. **Environmental benefits:**

- Wind energy is a source of renewable energy**.** It does not contaminate, it is inexhaustible and reduces the use of fossil fuels at the baseline, which are the origin of greenhouse gasses that cause global warming.
- Generating energy from the wind does not release any carbon emissions. By replacing electricity generated from other sources such as fossil fuel power stations, wind energy leads to an overall reduction in carbon emissions.
- Wind energy does not emit toxic substances or contaminants into the air while comparing with the project baseline, which can be very damaging to the environment and to human beings. Toxic substances can acidify land and water ecosystems, and corrode buildings. Air contaminants can trigger heart disease, cancer and respiratory diseases like asthma.
- Wind energy does not generate waste or contaminate water—an extremely important factor for water sustainability. Unlike fossil fuels and nuclear power plants, wind energy has one of the lowest (almost zero) water-consumption footprints, which makes it a key for conserving hydrological resources.

3. **Economic benefits:**

- Wind energy projects provide many economic benefits, including direct and indirect employment, land lease payments, local tax revenue, and lower electricity rates in wind-rich regions. While project-specific impacts depend on factors such as location, size, and ownership, the overall economic impacts of utility-scale wind energy development are easily identified.
- The project contributes to the economic sustainability through promotion of decentralization of economic power, leading to diversification of the national

energy supply, which is dominated by conventional fuel based generating units. Locally, improvement in infrastructure will provide new opportunities for industries and economic activities to be setup in the area. Apart from getting better employment opportunities, the local people will get better prices for their land, thereby resulting in overall economic development.

Thus, the project activity is contributing to various sustainable benefits which can be realized both in direct and indirect forms and positive impacts are realizable across the operational lifetime of the project.

A.3. Location of project activity >>

The project machines are located at in village Harogeri, Gadag district in the state of Karnataka (India). Gadag is approximately 416.4 km from Bangalore, capital of Karnataka. The site has been identified as ideally suited for wind power generation based on the micro siting studies and data analysis based on annual wind speed and frequency distribution, carried out by eminent agencies like Indian Institute of Tropical Meteorology and Karnataka Renewable Energy Development Limited.

The representative location map is included below:

(Image courtesy: Google maps & images)

Localisation:

Latitude : 15° 12' 56.4"
Longitude : 75° 45' 17.7"
Geodetic system : WGS84

Machine wise geo-coordinates are listed below:

Sl. No.	Location #	Latitude	Longitude
1.	K-210	15^0 12’ 35.9’’	75^0 45’ 21.8’’
2.	K-211	15^0 12’ 29.2’’	75^0 45’ 25.4’’
3.	K-212	15^0 12’ 23.0’’	75^0 45’ 29.4’’
4.	K-213	15^0 12’ 17.4’’	75^0 45’ 32.6’’

A.4. Technologies/measures >>

The project activity employs state-of-art horizontal axis wind turbines. The WTGs comprising the project activity generates clean power which is then exported to the nearest receiving station of KPTCL at Gadag (66/11 kV substation). The WTGs are grid connected and houses the metering, switchgear and other protection equipment. Representation of the same is provided below.

Describe in detail

The machine details are given below:

Specification	Value
Rated power	1,250 KW
Technology Provider	Suzlon Energy
Rotor Type	3 blade, upwind /horizontal axis
Gearbox Type	One planetary stage and two helical stages
Generator Type	Dual speed induction generator (asynchronous)
Tower Type	Tubular tower with welded steel
Breaking system	3 independent systems with blade pitching
Yaw system	Electric asynchronous motor, electric motor brake (spring applied), 5 stages planetary gear box with output pinion
Pitch system	3 independent blade pitch control with battery backup for each blade
Controller	Suzlon Control System

Further details given under the appendix 1.

A.5. Parties and project participants >>

Party (Host)	Participants
India	**NSL Renewable Power Private Limited.** Contact details: Mr. Rajnikant. A rajnikant.a@nslpower.com Address: 8 - 2-684/2/A, 4th Floor, Road.No.12, Banjara Hills, Hyderabad - 500034, Telangana, India

A.6. Baseline Emissions>>

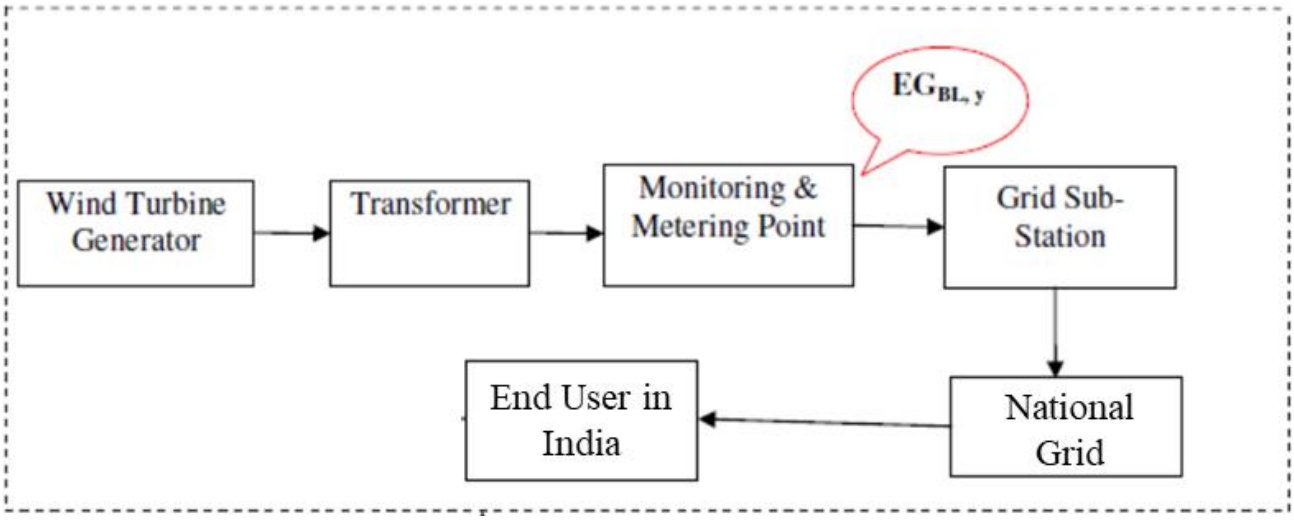
The baseline scenario identified at the PCN stage of the project activity is:

- Grid

In the absence of the project activity, the equivalent amount of electricity would have been generated from fossil fuel-based power plants and exported to the southern regional grid (which is connected to the unified Indian Grid system) as national grid is predominantly sourcing from fossil fuel-based power plants. Hence, baseline scenario of the project activity is the grid-based electricity system, which is also the pre-project scenario.

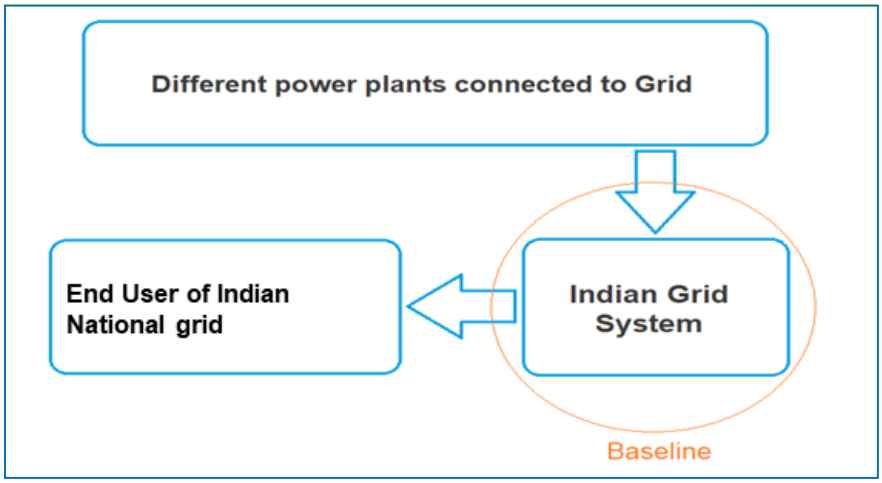
Schematic diagram showing the baseline scenario:

Project Scenario:



(* here $EG_{BL,y}$ refers to the net electricity to be considered for emission calculation, which is referred to as the $EG_{PJ,y}$ under this project activity)

Baseline Scenario:



A.7. Debundling>>

This project activity is not a debundled component of a larger project activity.

SECTION B. Application of methodologies and standardized baselines

B.1. References to methodologies and standardized baselines >>

SECTORAL SCOPE:
01, Energy industries (Renewable/Non-renewable sources)

TYPE:
I - Renewable Energy Projects

CATEGORY:
AMS. I.D. (Title: "Grid connected renewable electricity generation", version 18)

B.2. Applicability of methodologies and standardized baselines >>

The project activity involves generation of grid connected electricity from the operation of a new wind power project. The project activity has installed capacity of 5 MW which will qualify for a small-scale project activity under Type-I of the Small-Scale methodology. The project status is corresponding to the methodology AMS-I.D., version 18 and applicability of methodology is discussed below:

Applicability Criterion	Project Case
1. This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass: (a) Supplying electricity to a national or a regional grid; or **(b)** Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	The project activity involves setting up of a renewable energy (wind) generation plant that exports electricity to the fossil fuel dominated Indian electricity grid system. Thus, the project activity meets this applicability conditions.
2. Illustration of respective situations under which each of the methodology (i.e. AMS-I.D: Grid connected renewable electricity generation", AMS-I.F: Renewable electricity generation for captive use and mini-grid" and AMS-I.A: Electricity generation by the user) applies is included in Table 2	According to the point 1 of the Table 2 in the methodology – "Project supplies electricity to a national/ regional grid" is applicable under AMS I.D. As the project activity supplies the electricity to the regional grid which is a regional grid, the methodology AMS-I.D. is applicable.
3. This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in (an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s); (d) Involve a rehabilitation of (an) existing plant(s); or	The Project activity involves the installation of new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity. Thus, Project activity is a Greenfield plant and satisfies this applicability condition (a).

Applicability Criterion	Project Case
(e) Involve a replacement of (an) existing plant(s).	
4. Wind power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in existing reservoir, with no change in the volume of the reservoir; or (b) The project activity is implemented in existing reservoir, where the volume of the reservoir(s) is increased and the power density as per definitions given in the project emissions section, is greater than 4 W/m^2. (c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m2	As the project activity is a wind power plant, hence this condition is not applicable.
5. If the new unit has both renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.	The rated capacity of the project activity is 5 MW with no provision of Co-firing fossil fuel, only single renewable component (wind). Hence, this condition is not applicable.
6. Combined heat and power (co-generation) systems are not eligible under this category	This is not relevant to the project activity as the project involves only wind power generating units.
7. In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	There is no other existing renewable energy power generation facility at the project site. Hence, no addition of capacity is involved. Therefore, this criterion is not applicable.
8. In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement power plant/unit shall not exceed the limit of 15 MW.	The project activity is a new installation, it does not involve any retrofit measures nor any replacement and hence is not applicable for the project activity.
9. In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS I. C.: Thermal energy production with or without	This is not relevant to the project activity as the project involves only wind power generating units.

Applicability Criterion	Project Case
electricity" shall be explored.	
10. In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	This is not relevant to the project activity as the project involves only wind power generating units.

B.3. Applicability of double counting emission reductions >>

There is no double accounting of emission reductions in the project activity due to the following reasons:

- Project is uniquely identifiable based on its location coordinates,
- Project has dedicated commissioning certificate and connection point,
- Project is associated with energy meters which are dedicated to the generation/feeding point with the grid.

B.4. Project boundary, sources and greenhouse gases (GHGs)>>

As per applicable methodology AMS-I.D. Version 18, "*The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the project power plant is connected to*."

Thus, the project boundary includes the Wind Turbine Generators (WTGs) and the Indian grid system.

Source		Gas	Included?	Justification/Explanation
Baseline	Grid connected fossil fuel based electricity generation	**CO_2**	**Yes**	**Main emission source**
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source
		Other	No	No other GHG emissions were emitted from the project
Project	Greenfield Wind Power Project Activity	CO_2	No	No CO_2 emissions are emitted from the project
		CH_4	No	Project activity does not emit CH_4
		N_2O	No	Project activity does not emit N_2O
		Other	No	No other emissions are emitted from the project

B.5. Establishment and description of baseline scenario >>

This section provides details of emission displacement rates/coefficients/factors established by the applicable methodology selected for the project.

As per para 19 of the approved consolidated methodology AMS-I.D. Version 18, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

"***The baseline scenario is that the 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 into the grid***".

The project activity involves setting up of a new wind power plant to harness the green power from wind energy and to use for sale to national grid through PPA arrangement. In the absence of the project activity, the equivalent amount of power would have been generated by the operation of grid-connected fossil fuel-based power plants and by the addition of new fossil fuel-based generation sources into the grid. The power produced at grid from the other conventional sources which are predominantly fossil fuel based. Hence, the baseline for the project activity is the equivalent amount of power produced at the Indian grid.

A "grid emission factor" refers to a CO_2 emission factor (tCO_2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO_2/MWh for the 2014- 2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2021-22, the combined margin emission factor calculated from CEA database in India results into higher emission than the default value. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.

Net GHG Emission Reductions and Removals

Thus, $ER_y = BE_y – PE_y – LE_y$

Where:

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

BE_y = Baseline Emissions in year y ($t CO_2/y$)

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

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

Baseline Emissions

Baseline emissions include only CO_2 emissions from electricity generation in 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:

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

Where:

BE_y	=	Baseline emissions in year y (t CO_2)
$EG_{PJ,y}$	=	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the UCR project activity in year y (MWh)
$EF_{grid,y}$	=	UCR recommended emission factor of 0.9 tCO_2/MWh has been considered. (Reference: General Project Eligibility Criteria and Guidance, UCR Standard, page 4)

Project Emissions

As per AMS-I.D, version 18, only emission associated with the fossil fuel combustion, emission from operation of geo-thermal power plants due to release of non-condensable gases, emission from water reservoir of wind should be accounted for the project emission. Since the project activity is a wind power project, project emission for renewable energy plant is nil.

Thus, PE_y =0.

Leakage

As per paragraph 22 of AMS-I.D. version-18, 'If the energy generating equipment is transferred from another activity, leakage is to be considered.' In the project activity, there is no transfer of energy generating equipment and therefore the leakage from the project activity is considered as zero.

Hence, LE_y = 0

The actual emission reduction achieved during the first CoU period shall be submitted as a part of first monitoring and verification. However, for the purpose of an ex-ante estimation, following calculation has been submitted:

Estimated annual baseline emission reductions (BE_y)

= 8,760 MWh/year ✕ 0.9 tCO_2/MWh

= 7,884 tCO_2/year (i.e. 7,884 CoUs/year)

B.6. Prior History>>

(a) The project has never been applied under any other GHG mechanism.
(b) There is no other applicability of the project under any mechanism to claim any form of environmental credits.
(c) The project is in operation since the date of commissioning of the WTGs without any change in capacity or any other parameters.

Hence project will not cause any double accounting of carbon credits (i.e. COUs).

B.7. Changes to start date of crediting period >>

There is no change in the start date of crediting period applicable during this PCN submission.

The start date of crediting under UCR is considered as 01/01/2014, as the WTGs under the project were commissioned during 2006 and currently no GHG emission reduction has been claimed under the project since the date of commissioning.

B.8. Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline >>

Not applicable.

B.9. Monitoring period number and duration>>

Number : First Monitoring Period
Duration : 8 years, 04 months
01/01/2014 to 30/04/2022 (inclusive of both dates)

B.8. Monitoring plan>>

Data and Parameters available at validation (ex-ante values):

Data / Parameter	UCR recommended emission factor
Data unit	tCO_2 /MWh
Description	A "grid emission factor" refers to a CO_2 emission factor (tCO_2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO_2/MWh for the 2014- 2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.
Source of data	https://a23e347601d72166dcd6-16da518ed3035d35cf0439f1cdf449c9.ssl.cf2.rackcdn.com//Documents/UCRStandardNov2021updatedVer2_301121081557551620.pdf
Value applied	0.9
Measurement methods and procedures	-
Monitoring frequency	Ex-ante fixed parameter
Purpose of Data	For the calculation of Emission Factor of the grid
Additional Comment	The combined margin emission factor as per CEA database (current version 16, Year 2021) results into higher emission factor. Hence for 2021-22 vintage UCR default emission factor remains conservative.

Data and Parameters to be monitored (ex-post monitoring values):

Data / Parameter	$EG_{PJ, y}$
Data unit	MWh / year
Description	Net electricity supplied to the grid by the project activity
Source of data	NSL records / KPTCL records
Measurement procedures (if any):	For the purpose of a simplified and reliable measurement method, PP has proposed the following procedure for the parameter: (i) If the B-forms/JMR/Share certificates/credit notes etc. generated for the project WTGs provide net export quantity, the same will be directly considered for calculation. (ii) However, if the monthly statement does not directly provide "net electricity" units, then quantity of net electricity supplied to the grid shall be calculated using the parameters reflected in the monthly document, such as Export units and Import units. Thus, the difference between the measured quantities of the grid export and the import will be considered as net export: $EG_{PJ,y} = EG_{Export} - EG_{Import}$

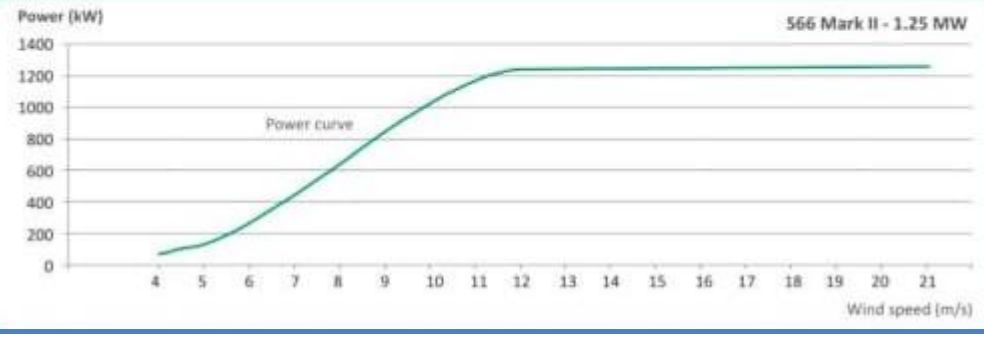
	(iii) In case the monthly accounting procedure (as may be reflected in the monthly statement (e.g. B-form, JMR, share certificate, invoice etc. whichever is relevant during the crediting period) includes any transmission losses or other parameters to discount the units and month billing is done on such discounted net value, then PP may decide to consider this value for ER calculation, which is conservative. Thus, $EG_{PJ,y}$ is the net export which will be either directly sourced from the monthly generation statements (such as JMR) or to be calculated from export and import values reported and/or the losses parameters (if included).
Measurement Frequency:	Monthly
Value applied:	8,760 (This is an annualized average value considered here for an ex-ante estimation only, whereas this is an ex-post parameter hence actual value shall be applied during monitoring and verification)
QA/QC procedures applied:	Calibration of the KPTCL Main meters will be carried out once in five years as per National Standards (as per the provision of CEA, India) and faulty meters will be duly replaced immediately as per the provision of power purchase agreement. The energy meter details are attached in Appendix-1 for further reference. Any change/replacement in energy meters shall be addressed during periodic verification. The net amount of electricity considered for ER estimate which will be anyhow based on monthly statements to be issued by KPTCL, which can be further cross verified by the monthly bills.
Purpose of data:	The Data/Parameter is required to calculate the baseline emission.
Any comment:	All the data will be archived till a period of two years from the end of the crediting period.

Appendix 1:

Technical specification of the wind machine included under this project:

S66 MARK II - 1.25 MW - POWER CURVE AND TECHNICAL SPECIFICATIONS

OPERATING DATA	Rated power	1,250 kW
	Cut-in wind speed	4 m/s
	Rated wind speed	12m/s
	Cut-off wind speed	20m/s
	Survival wind speed	52.5m/sec
ROTOR	Type	3 Blades, Upwind / Horizontal axis
	Diameter	66m
	Rotational speed at rated power	20.62rpm
	Rotor blade material	Epoxy bonded fiber glass
	Swept area	3,421 m^2
	Power regulation	Active pitch regulated
GEARBOX	Type	One planetary stage and two helical stages
	Ratio	1 : 74.9
	Nominal load	1,390 kW
	Type of cooling	Forced oil cooling lubrication system
GENERATOR	Type	Dual speed induction generator (asynchronous)
	Speed at rated power	1,006/1,506 rpm
	Rated power	300/1,250 kW
	Rated voltage	690 V AC (phase to phase)
	Frequency	50 Hz
	Insulation	Class H
	Enclosure	IP 56
	Cooling system	Air cooled (IC 411)
TOWER	Type	Tubular tower with welded steel
	Tower height	72m
	Hub height (including foundation)	74.5m
BRAKING SYSTEM	Aerodynamic braking	3 independent systems with blade pitching
	Mechanical braking	hydraulic disc brake activated by hydraulic pressure
YAW SYSTEM	Type	Electric asynchronous motor, electric motor brake (spring applied), 5 stage planetary gear box with output pinion
	Bearing	Friction bearing with gear rim
	Protection	Cable twist sensor, proximity sensor
PITCH SYSTEM	Type	3 independent blade pitch control with battery backup for each blade
	Operating range	0° to 90°
	Resolution	0° to 10 ° per sec
CONTROLLER		Suzlon Control System with following salient features:
		- Park slave - Power output control / limitation
		- Reactive power control - Grid measurement
		- Weather measurement - Time synchronization
		- Statistics
	Wind Class	III a
	Certification & standards	TC-GL-010A-2010 Rev. 1 & standard GL 2003 with supplement 2004
	Quality system	ISO 9001:2008

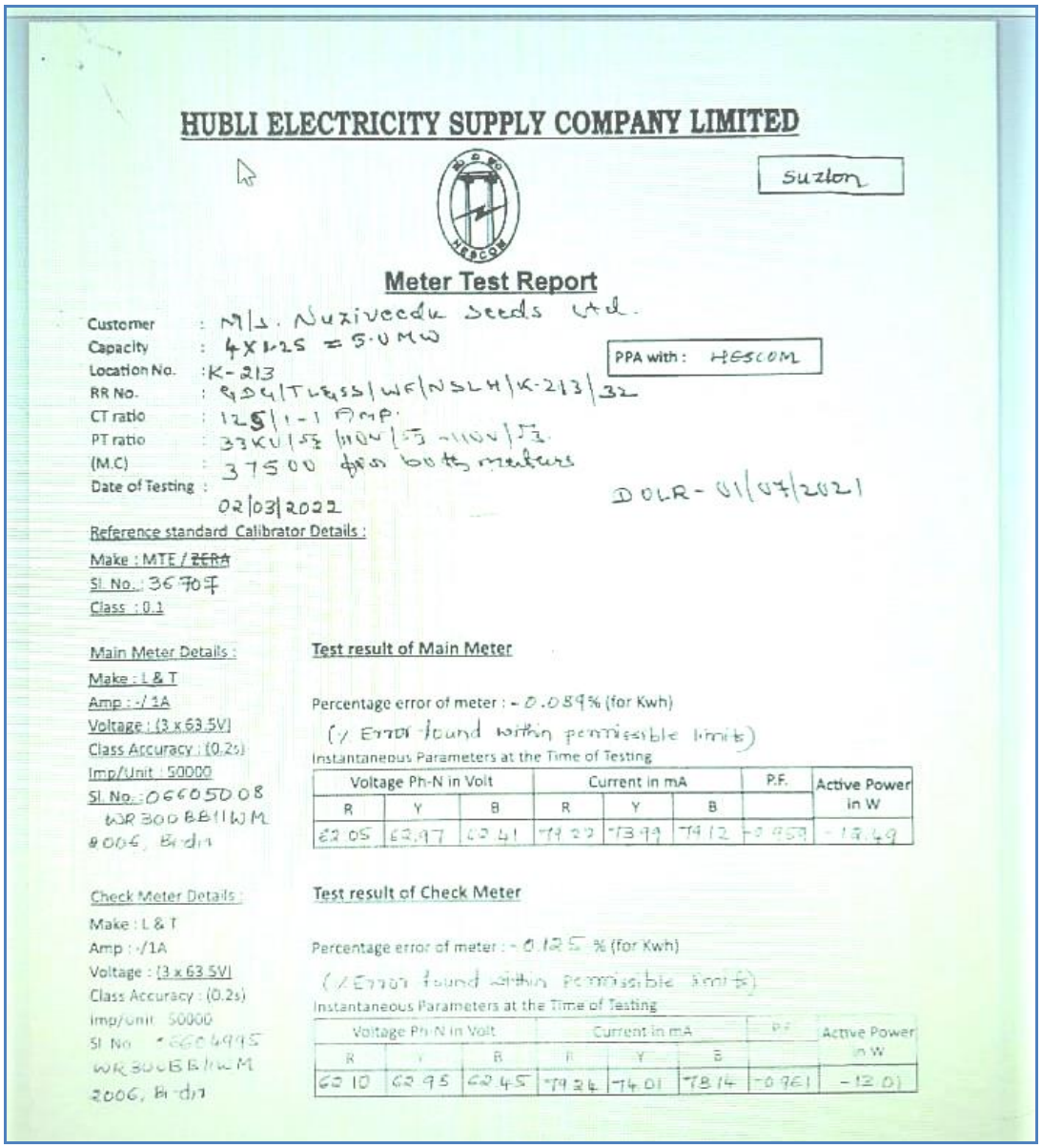


Appendix 2:

List of energy meters and their basic details:

NSL Renewable Power Private Limited					
Kappatgudda Project					
Energy Meter Serial numbers					
Sl.no	**RR. Number**	**Make of Energy Meter**	**Energy Meter Accuracy**	**Main Meter**	**Check Meter**
1	K-213	L&T	0.2s	6604995	6605008

The sample copy of the recent meter test report is attached for further representation:



HUBLI ELECTRICITY SUPPLY COMPANY LIMITED

Suzlon

Meter Test Report

Customer : M/s. Nuziveedu Seeds Ltd.
Capacity : 4X1.25 = 5.0 MW
Location No. : K-213
RR No. : 904/TL&SS/WF/NSLH/K-213/32
CT ratio : 125/1-1 AMP.
PT ratio : 33KV/√3 / 110V/√3.
(M.C) : 37500 Rph both meters
Date of Testing : 02/03/2022

PPA with : HESCOM

DOLR - 01/07/2021

Reference standard Calibrator Details :
Make : MTE / ~~ZERA~~
Sl. No. : 36707
Class : 0.1

Main Meter Details :
Make : L & T
Amp : -/1A
Voltage : (3 x 63.5V)
Class Accuracy : (0.2s)
Imp/Unit : 50000
Sl. No. : 06605008
WR 300 BB11WM
2006, Bhdn

Test result of Main Meter

Percentage error of meter : - 0.089% (for Kwh)
(/ Error found within permissible limits)
Instantaneous Parameters at the Time of Testing

Voltage Ph-N in Volt			Current in mA			P.F.	Active Power in W
R	Y	B	R	Y	B		
62.05	62.97	62.41	-79.22	-73.99	-74.12	-0.953	-13.49

Check Meter Details :
Make : L & T
Amp : -/1A
Voltage : (3 x 63.5V)
Class Accuracy : (0.2s)
Imp/unit : 50000
Sl No : 6604995
WR300BB1WM
2006, Bhdn

Test result of Check Meter

Percentage error of meter : - 0.125 % (for Kwh)
(/ Error found within permissible limits)
Instantaneous Parameters at the Time of Testing

Voltage Ph-N in Volt			Current in mA			P.F.	Active Power in W
R	Y	B	R	Y	B		
62.10	62.95	62.45	-79.26	-74.01	-78.14	-0.961	-12.01