PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT

Title: 1.5 MW Wind Project by Priya Aqua Farms in Tamil Nadu

Version 1.0
Date 10/06/2022

First COU Issuance Period:
8 years, 05 months

Date:
01/01/2014 to 31/05/2022

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

BASIC INFORMATION	
Title of the project activity	1.5 MW Wind Project by Priya Aqua Farms in Tamil Nadu
Scale of the project activity	Small Scale
Completion date of the PCN	10/06/2022
Project participants	Priya Aqua Farms
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 2,365 COUs per year]

SECTION A. Description of project activity

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

The project is tiled as "1.5 MW Wind Project by Priya Aqua Farms in Tamil Nadu", which is a grid connected wind power project located in village Panagudi, in the Tirunelveli district of Tamil Nadu, in 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 "PRIYA AQUA FARMS" which is an Independent Power Producer (IPP) focusing on producing green power and establishing environmental and social sustainability. This project as a green power project, utilizes the wind energy available in the existing barren land available in the state of Tamil Nadu to generate green power. The project activity includes 2 Wind Turbine Generators (WTGs) having different individual capacities of 750 KW each; manufactured and supplied by NEG Micon, currently part of Vestas. The total aggregated installed capacity is 1.5 MW and is commissioned and operational in the village Panagudi, Tirunelveli district in the state of Tamil Nadu (India).

The project activity aims to harness kinetic energy of wind (renewable source) to generate electricity. It is capable to generate around 2,628 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 for further utilization at dedicated captive consumption via Wheeling arrangement with the Tamil Nadu Electricity Board. The Power wheeling arrangement is made for an open access consumer "Wheels India Ltd", thus the monthly billing statements are in the name of the captive consumer Wheels India.

The details along with commissioning period are as follows:

Capacity (MW)	**Details (Nos., Type & Make)**	**Commissioning Date**
1.5	2 WTGs @ 750KW Vestas (earlier NEG Micon)	30 March 2003

Sl. No	Location ID		Co Ordinates		Village Names	Taluk	District
		WTG HT SC NO.	East	North			
1	WHEELS - 1	532	782303	920901	Panagudi	Radhapuram	Tirunelveli
2	WHEELS - 2	533	782225	920650	Panagudi	Radhapuram	Tirunelveli

The project activity was developed as a green-field 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 a dedicated consumer "Wheels India Ltd" via wheeling agreement. Therefore, the 2 wind machine sites are named as "Wheels India Ltd.", further designated as Wheels-1 & Wheels-2.

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., 2,628 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 2,365 tCO_2e; whereas actual emission reduction 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.

With regards to ESG credentials:

At present specific ESG credentials have not been evaluated, however, the project essentially contributes to various indicators which can be considered under ESG credentials. Some of the examples are as follows:

Under Environment:
For the project proponent, energy generation pattern and for the consumer the consumption pattern is now based on renewable energy due to the project and it also contributes to GHG emission reduction and conservation of depleting energy sources associated with the project baseline. Also, the criteria can be further evaluated on the basis of any environmental risks which the companies might face and how those risks are being managed by the companies. Here, as the power generation will be based on wind power, the risk of environmental concerns associated with non-renewable power generation and risk related to increasing cost of power etc. are now mitigated. Hence, project contributes to ESG credentials.

Under Social:
Social criteria reflect on the company's business relationships, qualitative employment, working conditions with regard to its employees' health and safety, interests of other stakeholders' etc. The Project Proponent has robust policies in place to ensure equitable employment, health & safety measures, local jobs creation etc. Also, at the organizational level various social activities are being performed that directly support local stakeholders to ensure social sustainability.

Under Governance:
Governance criteria relates to overall operational practices and accounting procedure of the organization. With respect to this project, there are practices of good governance that includes with transparency, accountability and adherence to local and national rules & regulations etc. Also, the project activity is a wind power project owned and managed by the proponent for which all required NOCs and approvals are received. The electricity generated from the project can be accurately monitored, recorded and further verified under the existing management practice of the company. Thus, the project and the proponent ensure good credentials under ESG.

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:**

- Local employment, better health, job opportunities, job creation, improvement of life standard, local income development for small businesses, overall demographic impacts and community development can be achieved in long run.
- It has led to development of infrastructure around the project area in terms of improved road network etc. and will also directly contribute to the development of renewable infrastructure in the region.

2. **Environmental benefits:**

- Primarily, wind energy does not cause water or air emissions, and do not produce any kind of hazardous waste as well. Moreover, wind power does not make use of natural resources like oil, gas or cause and therefore will not cause damage to the environment through resource transportation and extraction and also do not need consequent amounts of water during operation.
- Wind energy is not only a favourable electricity generation technology that reduces emissions (of other pollutants as well as CO2, SO2 and NOx), it also avoids significant amounts of external costs of conventional fossil fuel-based electricity generation. Thus, prevent the problem of global warming as compared to the project baseline.

3. **Economic benefits:**

- The project created direct and indirect jobs for the local people such as security guard, office staff, etc.
- Also, skilled man-powers are employed in the project for various technical functionalities. Additionally, the project greatly benefits the economy in rural areas, where the wind project is located.
- The nearby farmers and local vendors are benefitted with added income near the Wind project site by means of shops, tea stalls, etc., thus added additional income.
- The project has already created income avenues for local business/contractors as there are many outsourced activities are involved both during construction and after the operation of the project.

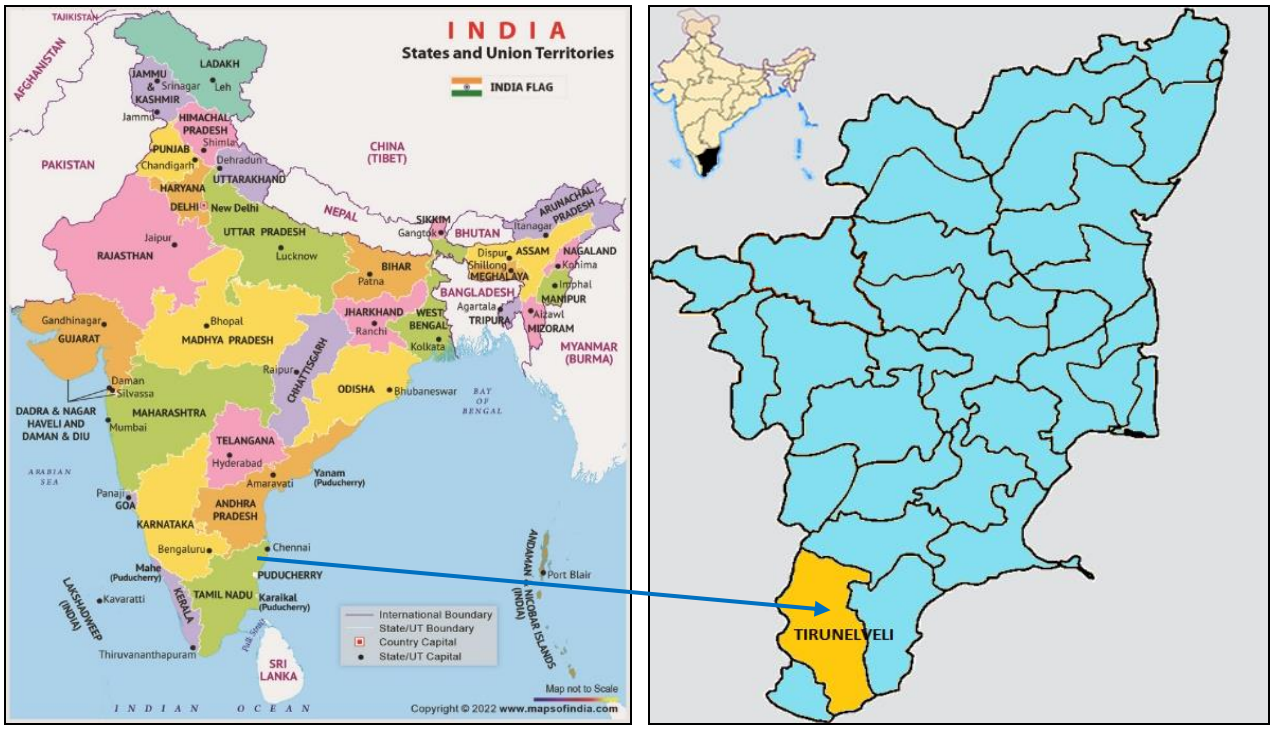
4. **Technological well-being:**

- Being a clean energy project, the project promotes technological well-being in the state
- Direct contribution to grid mix leading to energy security in the country
- Example setting for peer companies/investors to consider clean technology projects

A.3. Location of project activity >>

The project sites are located at in village Panagudi, Tirunelveli district in the state of Tamil Nadu (India). Tirunelveli is approximately 624.3 km from Chennai, capital of Tamil Nadu. 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 Tamil Nadu Renewable Energy Development Limited.

The representative location map is included below:



(Courtesy: google map and images)

The machine details with connection points:

Connected SS	Feeder Name	Location Name	Old HT.SC. No	New HT.SC. No	Coordinates	
					East	North
Panagudi TNEB SS 110 / 11KV	Phase - 1	WHEELS - 1	532	O79204720532	782303	920901
		Panagudi SS			783766	919429
AnnaNagar TNEB SS 110/ 33/11KV	MRF	WHEELS - 2	533	O79204720533	782225	920650
		Anna Nagar SS			782498	921113

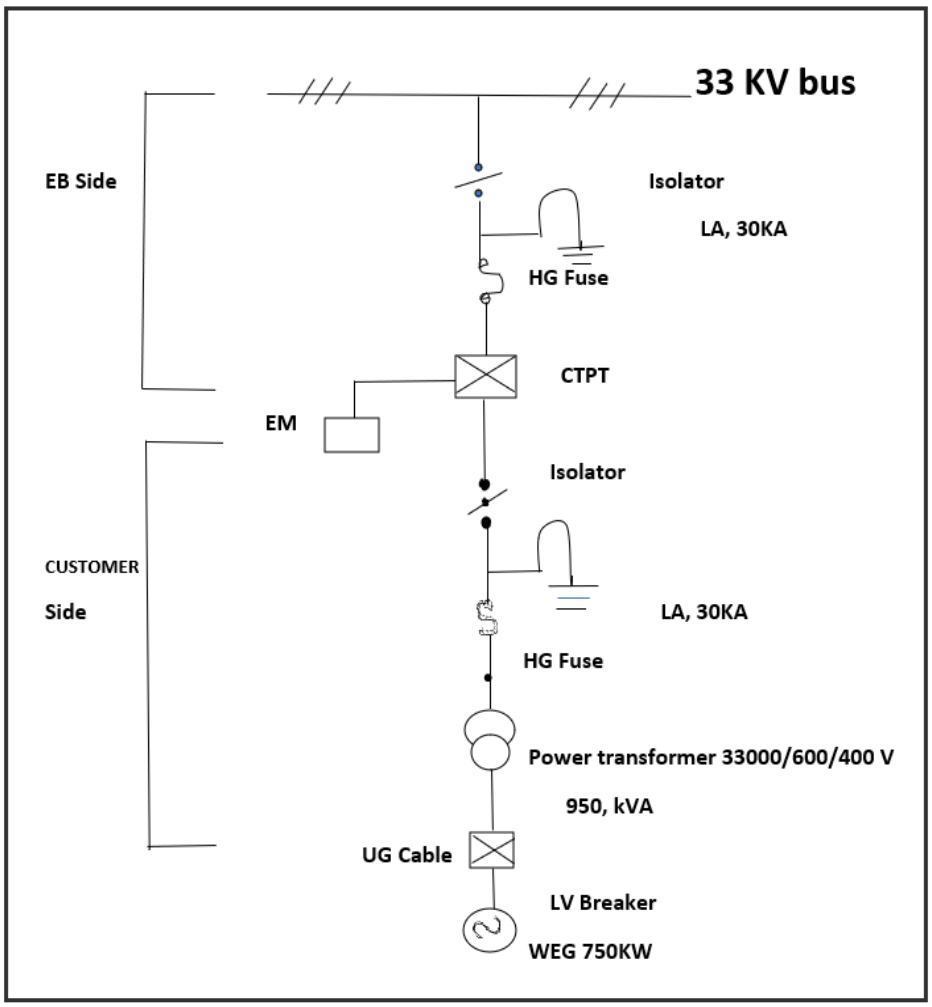
A.4. Technologies/measures >>

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 Tamil Nadu Electricity Board at Tirunelveli for further wheeling to the dedicated consumers. 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	750 KW
Rotor Type	LM 23.5/AL 23
Gearbox Type	spur/planetary
Generator Type	Asynchronous
Tower Type	Steel tube



More details of the machine are given on appendix.

A.5. Parties and project participants >>

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

A.6. Baseline Emissions>>

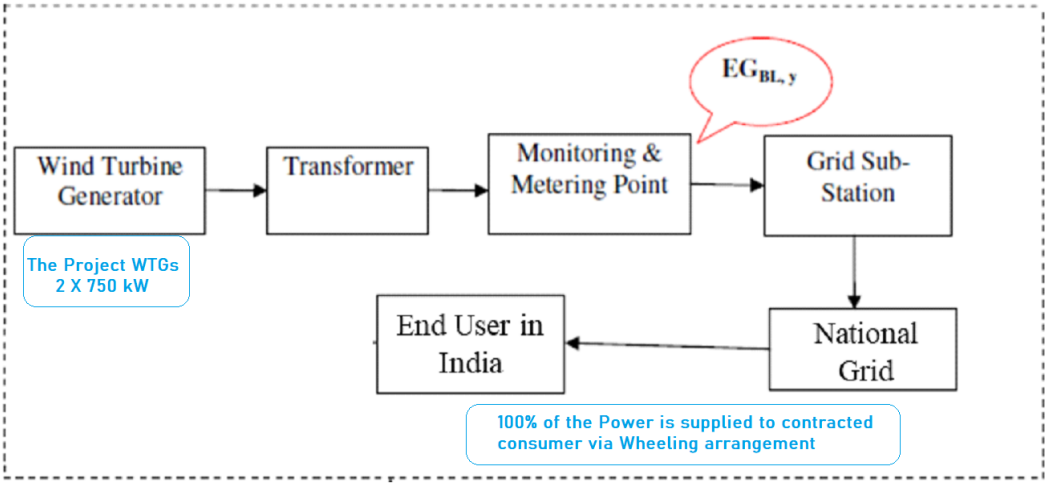
The baseline scenario identified at the PCN stage of the project activity is:

- Grid

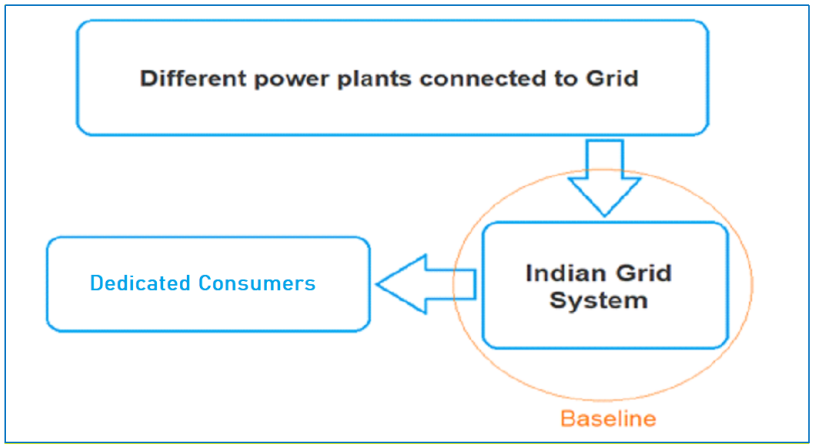
In the absence of the project activity, the equivalent amount of electricity would have been generated from fossil fuel-based power plants to be added into the southern regional grid (which is connected to the unified Indian Grid system) and further to be supplied to the captive consumers. The national grid is predominantly sourcing power 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:



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 1.5 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 and finally supplied to identified consumer facility via wheeling arrangement. 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. Hydro 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 criterion (a) is not applicable for the project activity.
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 1.5 MW, which is only the single renewable component with no provision of Co-firing fossil fuel. Hence, this criterion 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 capacity addition. 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.	This is not relevant to the project activity as the project involves only wind power generating units

Applicability Criterion	Project Case
C.: Thermal energy production with or without 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 a dedicated consumer via grid through a wheeling 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)

= 2,628 MWh/year ✕ 0.9 tCO_2/MWh
= 2,365 tCO_2/year (i.e., 2365 CoUs/year)

B.6. Prior History>>

The project activity consists of two wind machines. Following are the key details under the prior history of the project:

(a) 1.5 MW Wind power project in Tamil Nadu was commissioned on 30/03/2003 and since then it is operational without any change in project design.
(b) The project was not applied under any other GHG mechanism; except under UCR.
(c) Thus, CoUs to be claimed under this project activity does not lead to any double accounting of emission reductions claim.

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

Not applicable (i.e. there is no change in the start date of crediting period), as the project is submitted under UCR as a fresh project.

The crediting period under UCR has been considered from 01/01/2014.
This is because the WTGs under the project were commissioned during 2003 and currently no GHG emission reduction has been claimed under the project since 30 March, 2003.

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, 05 months
01/01/2014 to 31/05/2022 (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 17, Year 2022) 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 / Tamil Nadu Electricity Board 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 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., 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:	2,628 (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 Tamil Nadu Electricity Board 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-2 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 Tamil Nadu Electricity Board, 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:

Power		
Rated power:		750.0 kW
Flexible power ratings:		-
Cut-in wind speed:		4.0 m/s
Rated wind speed:		16.0 m/s
Cut-out wind speed:		25.0 m/s
Survival wind speed:		60.0 m/s
Wind zone (DIBt):		-
Wind class (IEC):		-
Rotor		
Diameter:		48.2 m
Swept area:		1,824.0 m²
Number of blades:		3
Rotor speed, max:		22.0 U/min
Tip speed:		56 m/s
Type:		LM 23.5/AL 23
Material:		GFK
Manufacturer:		LM Glasfieber/AL
Power density 1:		411.2 W/m²
Power density 2:		2.4 m²/kW
Gear box		
Type:		spur/planetary
Stages:		2
Ratio:		0.088888889
Manufacturer:		Brook/Hansen
Generator		
Type:		Asynchronous
Number:		1
Speed, max:		1,500.0 U/min
Voltage:		690.0 V
Grid connection:		Thyristor
Grid frequency:		50.0 Hz
Manufacturer:		Elin
Tower		
Hub height:		50/60/70 m
Type:		Steel tube
Shape:		conical
Corrosion protection:		painted
Manufacturer:		NEG Micon

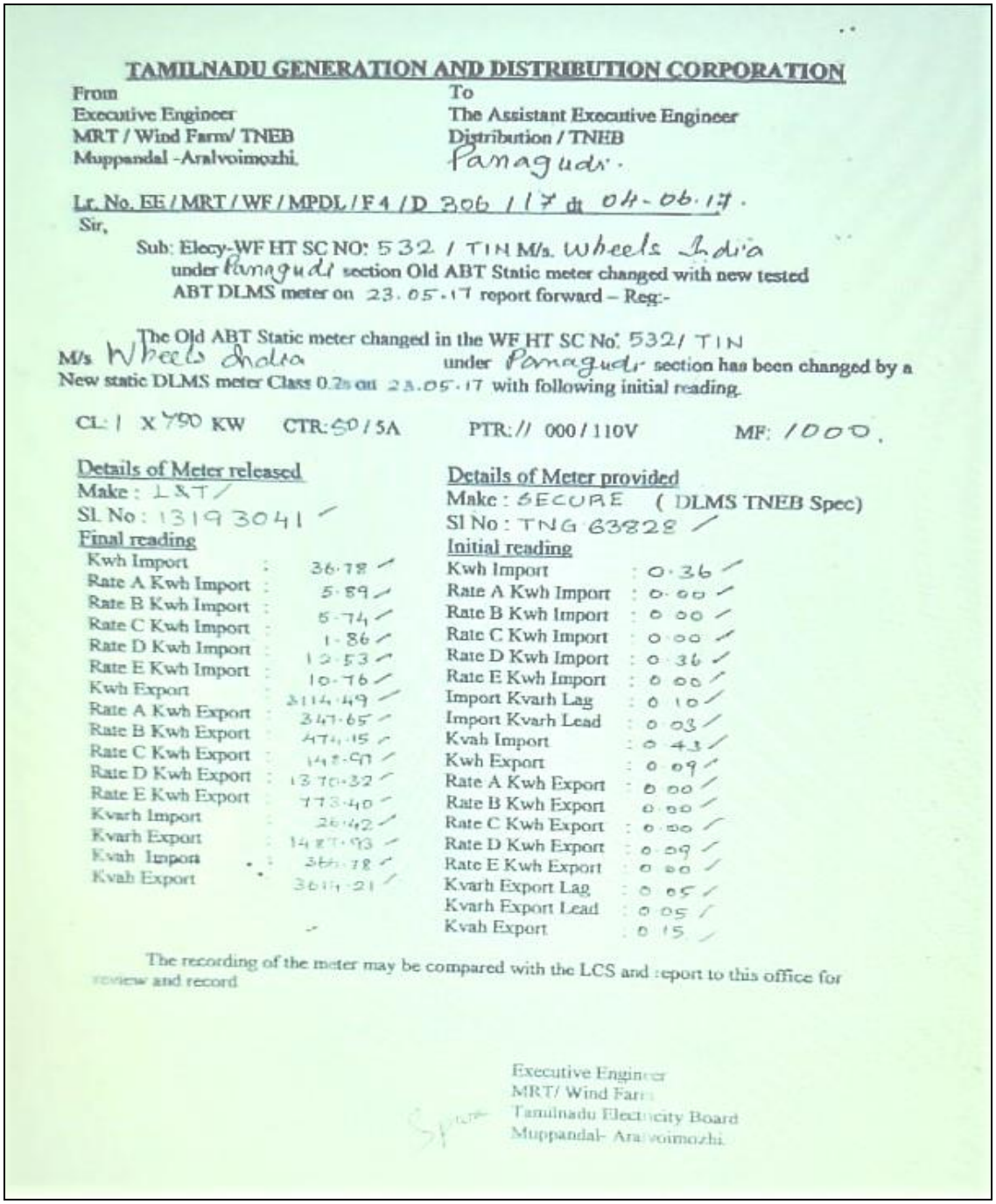
Weight		
Single blade:		-
Hub:		-
Rotor:		12.0 t
Nacelle:		22.0 t
Tower, max:		81.0 t
Total weight:		115.0 t

Appendix 2:

Details of the energy meters and their last calibration details are attached:

s

Sl. No	Location	Energy Meter Make	Energy Meter Sl. No	Energy Meter Accuracy
1	WHEELS - 01	SECURE	TNG63828	0.2 S
2	WHEELS - 02	SECURE	TNG63907	0.2 S



TAMILNADU GENERATION AND DISTRIBUTION CORPORATION

From
Executive Engineer
MRT / Wind Farm/ TNEB
Muppandal -Aralvoimozhi.

To
The Assistant Executive Engineer
Distribution / TNEB
Panagudi.

Lr. No. EE / MRT / WF / MPDL / F4 / D 306 / 17 dt 04-06-17.

Sir,

Sub: Elecy-WF HT SC NO: 532 / TIN M/s. Wheels India under Panagudi section Old ABT Static meter changed with new tested ABT DLMS meter on 23.05.17 report forward – Reg:-

The Old ABT Static meter changed in the WF HT SC No: 532/ TIN M/s Wheels India under Panagudi section has been changed by a New static DLMS meter Class 0.2s on 23.05.17 with following initial reading.

CL: 1 X 790 KW CTR: 50 / 5A PTR: // 000 / 110V MF: 1000.

Details of Meter released		Details of Meter provided	
Make : L&T		Make : SECURE (DLMS TNEB Spec)	
Sl. No : 13193041		Sl No : TNG 63828	
Final reading		**Initial reading**	
Kwh Import	36.78	Kwh Import	0.36
Rate A Kwh Import	5.89	Rate A Kwh Import	0.00
Rate B Kwh Import	5.74	Rate B Kwh Import	0.00
Rate C Kwh Import	1.86	Rate C Kwh Import	0.00
Rate D Kwh Import	12.53	Rate D Kwh Import	0.36
Rate E Kwh Import	10.76	Rate E Kwh Import	0.00
Kwh Export	3114.49	Import Kvarh Lag	0.10
Rate A Kwh Export	347.65	Import Kvarh Lead	0.03
Rate B Kwh Export	474.15	Kvah Import	0.43
Rate C Kwh Export	1[illegible].90	Kwh Export	0.09
Rate D Kwh Export	1370.32	Rate A Kwh Export	0.00
Rate E Kwh Export	773.40	Rate B Kwh Export	0.00
Kvarh Import	26.42	Rate C Kwh Export	0.00
Kvarh Export	1487.93	Rate D Kwh Export	0.09
Kvah Import	36[illegible].78	Rate E Kwh Export	0.00
Kvah Export	3611.21	Kvarh Export Lag	0.05
		Kvarh Export Lead	0.05
		Kvah Export	0.15

The recording of the meter may be compared with the LCS and report to this office for review and record.

Executive Engineer
MRT/ Wind Farm
Tamilnadu Electricity Board
Muppandal- Aralvoimozhi.

TAMILNADU GENERATION AND DISTRIBUTION CORPORATION

From
Executive Engineer
MRT / Wind Farm/ TNEB
Muppandal - Aralvoimozhi.

To
The Assistant Executive Engineer
Distribution / TNEB
Panagudi

Lr. No. EE / MRT / WF / MPDL / F 4 / D 654 / 17 dt 16.6.17.

Sir,

Sub: Elecy-WF HT SC NO: 533 / TIN. M/s. Wheels India under Panagudi section Old ABT Static meter changed with new tested ABT DLMS meter on 23.05.17 report forward – Reg:-

The Old ABT Static meter changed in the WF HT SC No: 533 / TIN M/s Wheels India under Panagudi section has been changed by a New static DLMS meter Class 0.2s on 23.05.17 with following initial reading.

CL: 1 X 750 KW CTR: 50 / 5A PTR: 11000 / 110V MF: 1000.

Details of Meter released		Details of Meter provided	
Make : L&T		Make : SECURE (DLMS TNEB Spec)	
Sl. No : 14192107		Sl No : TNG 63907	
Final reading		Initial reading	
Kwh Import	40.08	Kwh Import	0.26
Rate A Kwh Import	6.34	Rate A Kwh Import	0.02
Rate B Kwh Import	5.79	Rate B Kwh Import	0.31
Rate C Kwh Import	1.84	Rate C Kwh Import	0.00
Rate D Kwh Import	14.98	Rate D Kwh Import	0.02
Rate E Kwh Import	11.13	Rate E Kwh Import	0.00
Kwh Export	5153.91	Import Kvarh Lag	0.03
Rate A Kwh Export	353.47	Import Kvarh Lead	0.03
Rate B Kwh Export	453.29	Kvah Import	0.43
Rate C Kwh Export	150.13	Kwh Export	0.08
Rate D Kwh Export	1364.71	Rate A Kwh Export	0.00
Rate E Kwh Export	832.21	Rate B Kwh Export	0.00
Kvarh Import	47.34	Rate C Kwh Export	0.00
Kvarh Export	1586.56	Rate D Kwh Export	0.00
Kvah Import	618.44	Rate E Kwh Export	0.00
Kvah Export	3502.19	Kvarh Export Lag	0.04
		Kvarh Export Lead	0.04
		Kvah Export	0.03

The recording of the meter may be compared with the LCS and report to this office for review and record

Executive Engineer
MRT/ Wind Farm
Tamilnadu Electricity Board
Muppandal- Aralvoimozhi