PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT

Title: 71.4MW Wind Power Project in Gujarat by M/s Gujarat State Petroleum Corporation Ltd.
Version 1.0
Date 20/12/2021
First CoU Issuance Period: 7 years, 00 months
Date: 01/01/2014 to 31/12/2020

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

BASIC INFORMATION	
Title of the project activity	71.4MW Wind Power Project in Gujarat by M/s Gujarat State Petroleum Corporation Ltd.
Scale of the project activity	Large Scale
Completion date of the PCN	20/12/2021
Project participants	Gujarat State Petroleum Corporation Ltd.
Host Party	INDIA
Applied methodologies and standardized baselines	ACM0002: Grid-connected electricity generation from renewable sources --- Version 20.0[1]
Sectoral scopes	Sectoral scope(s): 01
Estimated amount of total GHG emission reductions	129,471 CoUs (129,471 tCO_{2eq})

[1] https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG

SECTION A. Description of project activity

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

The project titled under UCR is "71.4MW Wind Power Project in Gujarat by M/s Gujarat State Petroleum Corporation Ltd." is located in Villages Jakhau, Hothiyay, Tehsil Abdasa, District Kutch, State Gujarat, Country India. The project is an operational activity with continuous reduction of GHG, currently being under "Universal Carbon Registry" (UCR).

The details of the registered project are as follows:

Purpose of the project activity:

M/s Gujarat State Petroleum Corporation Ltd. has developed 71.4MW wind power project in the state of Gujarat. The project is generated power using clean source and replacing carbon intensive power from the national grid. The implementation of the project is detailed below:

Project Capacity	**Location**	**No. of Windmills and Capacity**	**Date of Commissioning**	**Connecting Substation**
52.5MW	Villages: Jakhau, Tehsil : Abdasa, District : Kutch, State: Gujarat, Country: India	35 Nos. of 1.5MW each	18/07/2009	33/220 kV Moti Sindholi SS
18.9 MW	Villages: Jakhau, Tehsil: Abdasa, District: Kutch, State: Gujarat Country: India	9 Nos. of 2.1 MW each	29/03/2012, 30/03/2012, 31/03/2012	33/220 kV Jamanvada SS
71.4 MW				

The project replace anthropogenic emissions of greenhouse gases (GHGs) estimated to be approximately 129,471 toCO2e per annum there on displacing 143,856.72 MWh/ year amount of electricity from the generation mix of power plants connected to the Indian electricity grid, which is mainly dominated by the thermal / fossil fuel based power plant.

The project activity is the installation of a new grid connected renewable power plant/unit. The scenario existing prior to the implementation of the project activity 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. Baseline scenario and scenario existing prior to the implementation of the project activity are both same.

Project's Contribution to Sustainable Development
This project is a greenfield activity where grid power is the baseline. Indian grid system has been predominantly dependent on power from fossil fuel powered plants. The renewable power generation is gradually contributing to the share of clean & green power in the grid. However, grid emission factor is still on higher side which defines grid as distinct baseline.

The Government of India has stipulated following indicators for sustainable development in the

interim approval guidelines for such projects which are contributing to GHG mitigations. The Ministry of Environment, Forests & Climate Change, has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. It has been envisaged that the project shall contribute to sustainable development using the following ways:

Social well-being: The project helps in generating direct and indirect employment benefits accruing out of ancillary units for manufacturing towers for erection of the Wind Turbine Generator (WTG) and for maintenance during operation of the project activity. It leads to development of infrastructure around the project area in terms of improved road network etc. and also directly contribute to the development of renewable infrastructure in the region.

Economic well-being: The project is a clean technology investment decided based on carbon revenue support, which signifies flows of clean energy investments into the host country. The project activity requires temporary and permanent, skilled and semi-skilled manpower at the project location; this creates additional employment opportunities in the region. In addition, improvement in infrastructure provides new opportunities for industries and economic activities to be setup in the area. Apart from getting better employment opportunities, the local people get better prices for their land, thereby resulting in overall economic development.

Technological well-being: The successful operation of project activity would lead to promotion of this technology and would further push R&D efforts by technology providers to develop more efficient and better machinery in future. Hence, the project leads to technological well-being.

Environmental well-being: The project activity generates power using zero emissions wind based power generation facility which helps to reduce GHG emissions and specific pollutants like SOx, NOx, and SPM associated with the conventional thermal power generation facilities. The project utilizes wind energy for generating electricity which is a clean source of energy. The project activity does not generate any air pollution, water pollution or solid waste to the environment which otherwise would have been generated through fossil fuels. Thus, the project causes no negative impact on the surrounding environment contributing to environmental well-being.

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

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

Rational: As per 'Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India)', final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (07/03/2016)[2], it has been declared that wind project activity falls under the "White category". White Category projects/industries do not require any Environmental Clearance such as 'Consent to Operate' from PCB as such project does not lead to any negative environmental impacts. Additionally, as per Indian Regulation, Environmental and Social Impact Assessment is not required for Wind Projects.

There are social, environmental, economic and technological benefits which contribute to sustainable development. The key details have been discussed in the previous section.

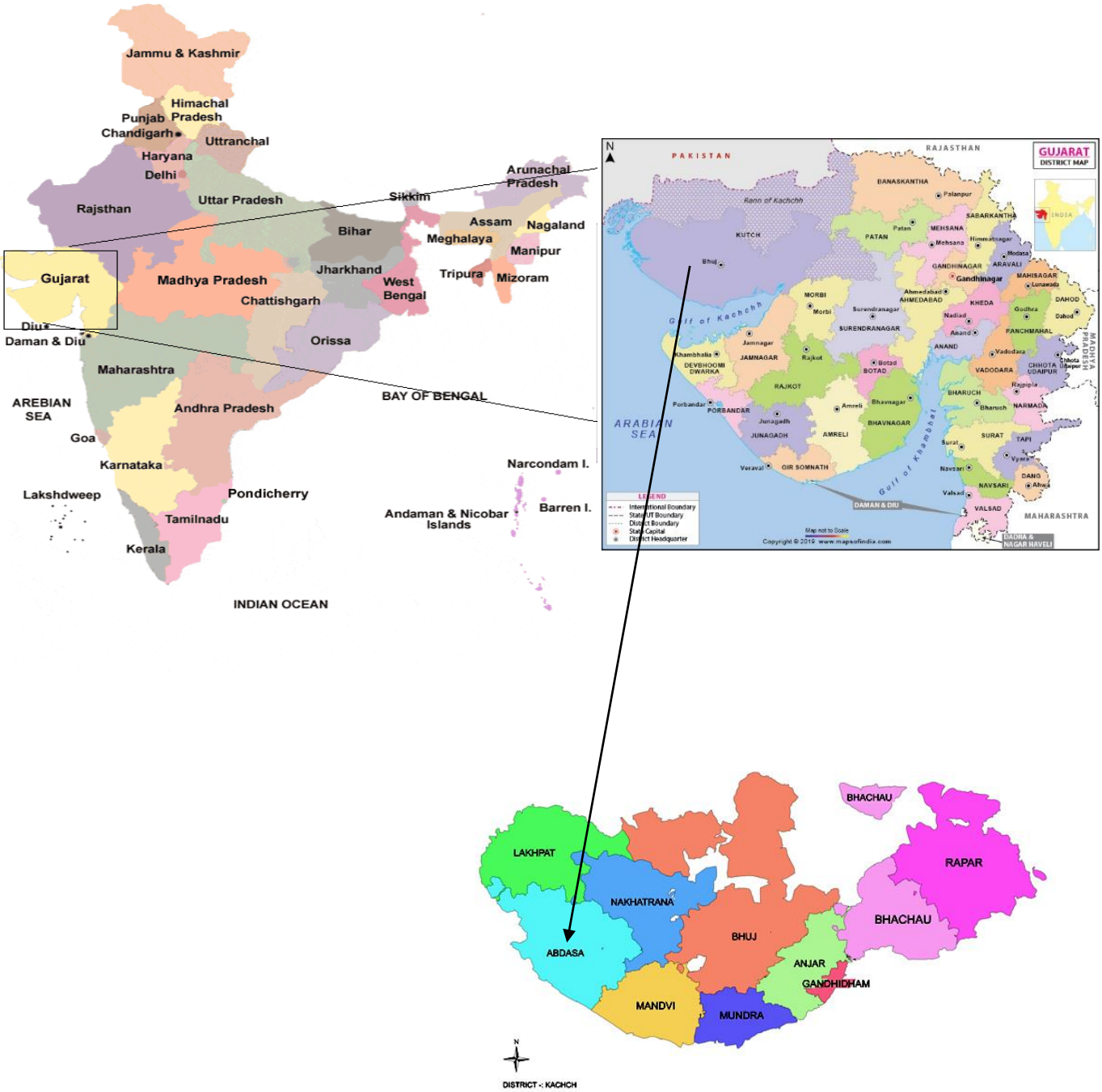
[2] http://moef.gov.in/wp-content/uploads/2017/07/Latest_118_Final_Directions.pdf

A.3. Location of project activity >>

Location of project: 18.9 MW
Country: India
District: Kutch
Village: Hothiyay
Tehsil: Abdasa
State: Gujarat
Code: 370640

Location of project: 52.5 MW
Country: India
District: Kutch
Village: Jakhau
Tehsil: Abdasa
State: Gujarat
Code: 370640

Insert google map or any other map showing location of the project activity



Unique Location Details of Windmills:

Loc No.	District	Taluka	Village	Survey no.	Longitude	Latitude
JK201	Kutch	Abdasa	Jakhau	1415	E68 39 10.2	N23 13 56.3
JK202	Kutch	Abdasa	Jakhau	1414	E68 39 16.9	N23 13 42.8
JK203	Kutch	Abdasa	Jakhau	1388	E68 39 50.5	N23 13 37.7
JK204	Kutch	Abdasa	Jakhau	1391	E68 40 00.0	N23 13 15.6
JK205	Kutch	Abdasa	Jakhau	1391	E68 40 05.4	N23 13 04.2
JK206	Kutch	Abdasa	Jakhau	1385	E68 40 13.2	N23 13 32.9
JK207	Kutch	Abdasa	Jakhau	1388	E68 39 46.0	N23 13 47.7
JK208	Kutch	Abdasa	Jakhau	1380	E68 40 42.4	N23 13 20.1
JK209	Kutch	Abdasa	Jakhau	1380	E68 40 58.1	N23 13 34.7
JK210	Kutch	Abdasa	Jakhau	1379	E68 41 21.3	N23 13 33.0
JK211	Kutch	Abdasa	Jakhau	1378	E68 41 37.7	N23 13 46.4
JK212	Kutch	Abdasa	Jakhau	1378	E68 41 42.9	N23 13 28.5
JK213	Kutch	Abdasa	Jakhau	1377	E68 42 05.7	N23 13 36.1
JK214	Kutch	Abdasa	Jakhau	1377	E68 42 12.2	N23 13 21.1
JK215	Kutch	Abdasa	Jakhau	1328	E68 43 19.2	N23 14 59.3
JK216	Kutch	Abdasa	Jakhau	1329	E68 43 13.6	N23 15 12.0
JK217	Kutch	Abdasa	Jakhau	1330	E68 43 07.6	N23 15 24.9
JK218	Kutch	Abdasa	Jakhau	1331	E68 42 57.9	N23 15 41.1
JK219	Kutch	Abdasa	Jakhau	1321	E68 43 05.7	N23 16 20.4
JK221	Kutch	Abdasa	Jakhau	1338	E68 43 35.5	N23 15 12.8
JK222	Kutch	Abdasa	Jakhau	1345	E68 44 04.7	N23 14 59.6
JK223	Kutch	Abdasa	Jakhau	1343	E68 43 50.1	N23 15 25.8
JK224	Kutch	Abdasa	Jakhau	1341	E68 43 38.8	N23 15 50.6
JK225	Kutch	Abdasa	Jakhau	1322	E68 43 27.8	N23 16 24.0
JK226	Kutch	Abdasa	Jakhau	1325	E68 43 46.0	N23 16 36.8
JK227	Kutch	Abdasa	Jakhau	1512	E68 43 50.9	N23 16 21.6
JK229	Kutch	Abdasa	Jakhau	1513	E68 44 11.9	N23 15 29.5
JK230	Kutch	Abdasa	Jakhau	1511	E68 44 08.0	N23 16 32.0
JK231	Kutch	Abdasa	Jakhau	1514	E68 44 36.3	N23 16 11.4
JK233	Kutch	Abdasa	Jakhau	1312	E68 45 01.5	N23 16 11.6
JK234	Kutch	Abdasa	Jakhau	1310	E68 45 14.9	N23 16 01.8
JK235	Kutch	Abdasa	Jakhau	1310	E68 45 30.3	N23 15 53.2
JK237	Kutch	Abdasa	Jakhau	1337	E68 43 42.7	N23 14 59.2
JK238	Kutch	Abdasa	Jakhau	1342	E68 43 45.2	N23 15 38.8
JK240	Kutch	Abdasa	Jakhau	1513	E68 44 24.1	N23 15 56.8
JMD401	Kutch	Abdasa	Hothiyay	104/p1	E68 32 25.4	N23 29 57.0
JMD402	Kutch	Abdasa	Hothiyay	111/p1	E68 32 36.9	N23 29 35.1
JMD409	Kutch	Abdasa	Hothiyay	108/p1	E68 32 51.2	N23 29 48.9
JMD410	Kutch	Abdasa	Hothiyay	100/p1	E68 32 41.3	N23 30 08.7
JMD411	Kutch	Abdasa	Hothiyay	101/p1	E68 32 35.4	N23 30 21.4
JMD412	Kutch	Abdasa	Hothiyay	98/p1	E68 32 58.9	N23 30 27.6
JMD413	Kutch	Abdasa	Hothiyay	92/p1	E68 33 06.8	N23 30 09.5
JMD415	Kutch	Abdasa	Hothiyay	86/p1	E68 33 20.4	N23 30 26.7
JMD416	Kutch	Abdasa	Hothiyay	80/p3	E68 33 43.3	N23 30 23.5

A.4. Technologies/measures >>

The proposed project activity is installation and operation of 35 numbers of 1.5 MW wind turbine generator of Suzlon make (S82 model) and 9 nos. of 2.1MW wind turbine generator of Suzlon make

(S88 model) with an aggregated installed capacity of 71.4 MW in Kutch district of Gujarat state of India.

The salient features of the technology are as given below:

Technical specifications of Suzlon S 82/1500kW

Rotor	
Diameter	82 m
Installed electrical output	1500 kW
Cut-in wind speed	4 m/sec
Cut out wind speed	20 m/sec
Rotor swept area	5281 m2
Rotational speed	15.6/18.4 rpm
Rotor material	Epoxy bonded fibre glass
Gear Box	
Type	One planetary stage/ Two helical stages
Gear ratio	1:95.09
Nominal load	1650 kW
Type of cooling	Forced oil cooling lubrication system
Generator	
Type	Single speed induction generator with slip rings variable motor resistance via Suzlon-Flexi-Slip system
Rotation speed	1511 RPM
Rated Output	1500 kW
Rated Voltage	690 V AC
Frequency	50 Hz
Insulation Class	“H”

Technical specifications of Suzlon S 88/2100kW

Rotor	
Diameter	88 m
Installed electrical output	2100 kW
Cut-in wind speed	4 m/sec
Cut out wind speed	25 m/sec
Rotor swept area	6,082 m2
Rotational speed	15.1/17.7 rpm
Rotor material	Fiberglass / Epoxy
Gear Box	
Type	3 stages (1 planetary & 2 helical)
Gear ratio	1:98.8 (±)
Nominal load	2,310 kW
Generator	
Type	Induction generator with slip rings, variable rotor resistance with Suzlon Flex slip control system
Cooling system	Air cooled (IC6A1A6)
Rated Output	2100 kW
Rated Voltage	690/600 V
Frequency	50 / 60 Hz

Slip control	Flexi-Slip providing slip up to 16.7%
Insulation Class	“H”

The average lifetime of the WTGs under project activity is around 25 years as per the equipment supplier specifications. The plant load factor estimated as 23%[3], as per GERC wind Tariff Order prevailing at the time of commissioning of the project.

In the absence of the project activity the equivalent amount of electricity imported from NEWNE grid would have been generated from the NEWNE grid, which is predominantly based on fossil fuels, hence baseline scenario of the project activity is the grid-based electricity system, which is also the pre-project scenario.

A Supervisory Control & Data Acquisition System (SCADA) provides a graphical representation of data providing ease to understand the behaviour of WTG, long time data storage facility, access to daily generation report and power curve related information & helps to analyze the problem with graphical tools offline as well as online. The other specifications include a safety system with instrumentation for tracking individual functions of the wind electric generator.

A.5. Parties and project participants >>

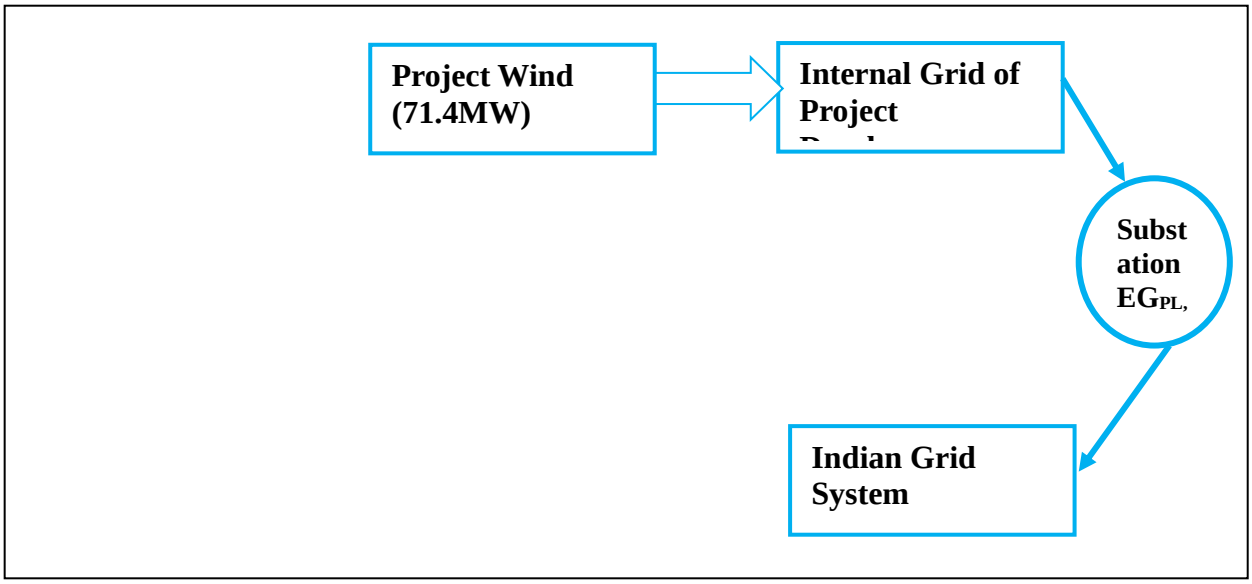
Party (Host)	Participants
India	Gujarat State Petroleum Corporation Ltd.

[3] https://www.gercin.org/wp-content/uploads/2019/09/feb2006.pdf

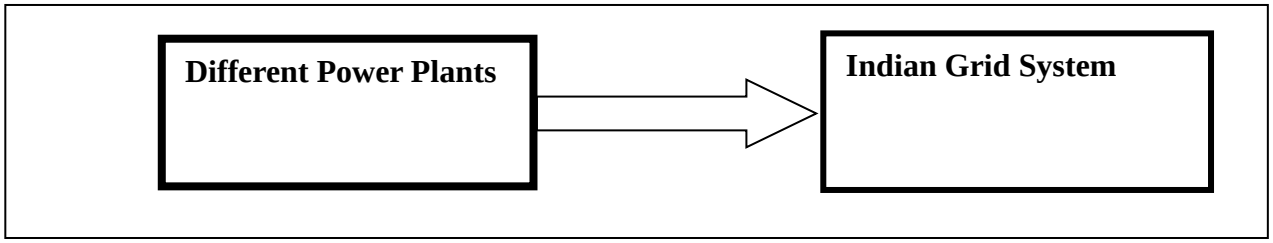
A.6. Baseline Emissions>>

In the absence of the project activity, the equivalent amount of electricity would have been imported from the regional grid (which is connected to the unified Indian Grid system (NEWNE Grid)), which is carbon intensive due to predominantly sourced from fossil fuel-based power plants. Hence, baseline scenario of the project activity is the grid-based electricity system, which is also the preproject scenario.

Schematic diagram showing the project scenario:



Schematic diagram showing the baseline scenario:



A.7. Debundling>>

This project activity is a large scale project and hence the debundling criteria is not applicable for this 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- ACM0002: Grid-connected electricity generation from renewable sources --- Version 20.0

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

The project activity involves generation of grid connected electricity from the construction and operation of a new wind power based power project for supply to grid. The project activity has installed capacity of 71.4 MW which will qualify for a large scale project activity. The project status is corresponding to the methodology ACM002., version 20.0 and applicability of methodology is discussed below:

Applicability Criterion	**Project Case**
1. This methodology is applicable to grid connected renewable energy power generation project activities that: (a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plants/units; (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s)/unit(s)	The project activity is a Renewable Energy Project i.e. Wind Power Project which falls under applicability criteria option 1 (a) i.e., "Install a Greenfield power plant". Hence the project activity meets the given applicability criterion.
2. The methodology is applicable under the following conditions: (a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; (b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.	The option (a) of applicability criteria 2 is applicable as project is renewable energy wind power plant/unit.
3. In case of hydro power plants, one of the following conditions shall apply:6 (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased	The project is installation of new wind based electricity generation plants (not a hydro power plant). Hence this criteria is not applicable.

and the power density calculated using equation (3), is greater than 4 W/m2 ; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (3), is greater than 4 W/m2 ; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (3), is lower than or equal to 4 W/m2 , all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (4), is greater than 4 W/m2 ; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m2 shall be: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.	
4. In the case of integrated hydro power projects, project proponent shall:	The project is wind power project and thus the criterion is not applicable to this project activity.
5. Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or	The project is wind power project and thus the criterion is not applicable to this project activity.
6. Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum five years prior to implementation of project activity.	The project is wind power project and thus the criterion is not applicable to this project activity.
7. The methodology is not applicable to: (a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; (b) Biomass fired power plants/units.	(a) The project activity is Greenfield and there is no switching of fossil fuel to renewable energy. Hence the criteria is not applicable to the project activity (b) The project is not a biomass fired power plant. Hence the criteria is not applicable to the project activity.
8. In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the	Not applicable, the wind project is a Green field project activity and this project is not

identification of baseline scenario, is "the continuation of the current situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	the enhancement or up gradation project.

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 consumption point for project developer

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

As per applicable methodology ACM002. Version 20.0, "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		GHG	Included?	Justification/Explanation
Baseline	Grid connected electricity generation	CO2	Yes	Main source of emission
		CH4	Excluded	Minor emission source
		N2O	Excluded	Minor emission source
		Other	Excluded	No other GHG emission were emitted from the project
Project Activity	Greenfield Wind Power Project Activity	CO2	Excluded	No CO2 emissions are emitted from the project
		CH4	Excluded	Project activity does not emit CH4
		N2O	Excluded	No other emissions are emitted from the project

B.5. Establishment and description of baseline scenario (UCR Standard or Methodology) >>

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

As per the approved consolidated methodology ACM002. Version 20.0, 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 supply power to grid. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel fired plants. The power produced at grid from the 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, 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: B
E_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 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 ACM002. Version 20.0, 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 Hydro 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 ACM002, Version 20.0, ‘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) = 143,856.72 MWh/year *0.9 tCO2/MWh = 129,471 tCO2e/year (i.e. 129,471 CoUs /year)

B.6. Prior History>>

The project activity has not applied to any other GHG program for generation or issuance of carbon offsets or credits for the said crediting period.

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

There is no change in the start date of crediting period.

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

NA

B.9. Monitoring period number and duration>>

First Issuance Period: 7 years, 00 months – 01/01/2014 to 31/12/2020

B.8. Monitoring plan>>

Data/Parameter	$EG_{facility,y}$
Data unit	MWh/yr
Description	Quantity of net electricity supplied to the grid in year y
Source of data Value(s) applied	Monthly "Certificate for Share of Electricity Generated by Wind Farm" issued by GETCO.
Measurement methods and procedures	The net electricity supplied to the grid by the wind farm is calculated by GETCO/GEDA and monthly recorded in the form of share certificate. The net electricity supplied by the project activity is taken directly from the share certificate issued by GETCO on monthly basis and is directly used to estimate the emission reduction. Calculation procedure for $EG_{facility,y}$: The WTGs of the project activity are divided into clusters and each cluster has dedicated metering system. All these cluster meters are connected to the GETCO (Gujarat Energy Transmission Corporation Limited) Main meter (also known as revenue meter/billing meter) at the 220/33 kV S/S. One check meter is also installed along with the main meter (GETCO meter) at sub-station. The substation is further connected to GETCOs substation. The Cluster meters and both the Main & Check meters are owned by the PP and sealed and controlled by GETCO (State Grid Company). The main meter reading (GETCO meter) at sub- tation is taken jointly by the representatives of Suzlon and GEDA/GETCO in the form of JMR on monthly basis. The net electricity supplied to the grid by the wind farm is calculated by GETCO/ GEDA on the basis of GETCO main meter reading and the meter readings taken at individual cluster meters after adjusting transmission loss. For adjustment of transmission loss, the electricity metered at the GETCO meter is proportionally divided among the customers connected to the same revenue

	meter on the basis of the pro-rata readings taken at the cluster meters metering point. This is done by GETCO/ GEDA. On the basis of the JMR reading and the data received for Cluster meters on monthly basis, GETCO/GEDA does the apportionment and GETCO issues the share certificates to the PP.
Monitoring frequency	Continuous measurement and at least monthly recording. QA/QC procedures: The Quantity of net electricity exported from the monthly wind energy certificates will be cross-checked with the invoices for the sale of power by M/s Gujarat State Petroleum Corporation Ltd. Calibration of all the meters will be undertaken once in 3 years. Faulty meters will be duly replaced immediately. All the meters will be of accuracy class 0.2 or above
Purpose of data	To calculate the baseline emission.