PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT

Title: "15.65 MW Bundled Wind Energy Project in India by Intech Group"

Version 1.0

Date 13/06/2025

First CoU Issuance Period: 4 years and 4 months.

Date: 01/09/2020 to 31/12/2024

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

BASIC INFORMATION	
Title of the project activity	"15.65 MW Bundled Wind Energy Project in India by Intech Group".
Scale of the project activity	LARGE SCALE
Completion date of the PCN	13/06/2025
Project participants	Inno Automation, Intech Automation, Intech Power Kovai, Intech Power Chennai Pvt Ltd.
Host Party	INDIA
Applied methodologies and standardized baselines	ACM0002-Consolidated baseline methodology for grid-connected electricity generation from renewable sources - Version 22.0
Sectoral scopes	01 Energy industries (Renewable/Non-renewable Sources)
Estimated amount of total GHG emission reductions	**27,026** CoUs (**27,026** tCO_{2eq})

SECTION A. Description of project activity

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

The project "15.65 MW Bundled Wind Energy Project in India by Intech Group". is a bundle of 4 (Four) renewable (wind) energy projects located at the following locations in Country: India:

The details of the registered project are as follows:

Bundled Sr No	Name Of Wind Farm Bundle	Installed Capacity (Mw)	Village	District	State
1	Inno Automation	2.5	Sakri	Dhule/Sangli	Maharashtra
2	Intech Automation	2.5	Sakri	Dhule	Maharashtra
3	Intech Power Kovai	1.25	Sakri	Dhule	Maharashtra
4	Intech Power Chennai Pvt Ltd.	6.25	Sakri	Dhule	Maharashtra
5	Intech Power Chennai Pvt Ltd.	3.15	Bhelahadi	Gadag	Karnataka

Purpose of the project activity:

The wind bundle Sr. No 01 is owned by Inno Automation. (Project Proponent or PP) Having the total installed capacity is of 2.5 MW and consists of 2 Wind turbine generators (WTGs) each of 1.25 MW capacity in Dhule district of Maharashtra. The wind bundle Sr. No 02 is owned by Intech Automation – (Project Proponent or PP) The total installed capacity is 2.5 MW wind power project in dhule of Maharashtra. PP consists of 2 WTGs of 1.25 MW each. The wind bundle Sr. No 03 Intech Power Kovai is the total installed capacity is 1.25 MW and consists of one WTG in Dhule district of Maharashtra.

The wind farm bundle Sr. No 04 is owned by Intech Power Chennai pvt ltd – (Project Proponent or PP) having 2 states in that Maharashtra & Karnataka in which the total capacity is 9.4 MW. Maharashtra having 6.25 MW & Karnataka 3.15 MW.

The bundled wind power projects are operational activities with continuous reduction of GHGs, currently being applied for voluntary carbon offset units (CoUs) under "Universal Carbon Registry" (UCR). The commissioning date of the first WTG in the bundle is considered as the start date of the project activity and is recorded as (details has been mentioned in project location & activity).

In the absence of the project activity, electricity would have been delivered to the grid by the operation of fossil fuel-based grid-connected power plants and by the addition of new fossil fuel-based generation sources in the grid. As it's a nature of wind projects (renewable energy), no fossil fuel is involved for power generation in the project activity. The electricity produced by the project is directly contributing to climate change mitigation by reducing the anthropogenic emissions of greenhouse gases (GHGs, i.e. CO2) into the atmosphere by displacing an equivalent amount of power at grid.

The estimated annual average CO2e emission reductions by the project activity are expected to be 270257 tCO2e, 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 does not cause any negative impacts on the environment and thereby contributes to climate change mitigation efforts.

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:

The following environmental benefits are derived from the project activity:

- Produces renewable electricity without any GHG emissions.
- Wind power plants have little impact on the surrounding ecology.

For the PPs, energy sale 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. Hence, project contributes to ESG credentials.

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.

- **Social benefits:**

1. Social well-being is assessed by contribution by the project activity towards improvement local living standard.
2. The project activity has resulted in increased job opportunities for the local population temporary & permanent basis
3. Manpower was required both during erection & operation of the wind farms. this has resulted in poverty alleviation of the local community & development.

- **Environmental benefits:**

1. The project utilizes wind energy for generating electricity which otherwise would have generated through alternate fuel (most likely – fossil fuel) based power plant, contributing to reduction in specific emission including GHG emission.
2. As wind power projects produce no end products in the form of solid waste (ash, etc). they address the problem of the solid waste disposal encountered by most other sources of power
3. Being a renewable resource, using wind energy to generate electricity contributes to resources conservation, thus the project activity causes no negative impact on the surrounding environment.

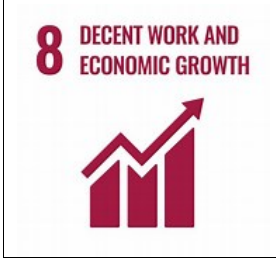
- **Economic benefits:**

1. The project activity has created direct & indirect job opportunities to the local community during installation & operation of the WEGS.
2. The investment for the project activity has increased the economic activity the local area.
3. The project activity generates electrical power using wind energy, which is generated from windmills, there by displacing non-renewable fossil resources resulting to sustainable, economic and environmental development.

   In the absence of the project activity equivalent amount of power generation would have taken place through fossil fuel dominated power generating stations. Thus, the renewable energy generation from project activity will result in reduction of the greenhouse gas emissions.

   Positive contribution of the project to the following

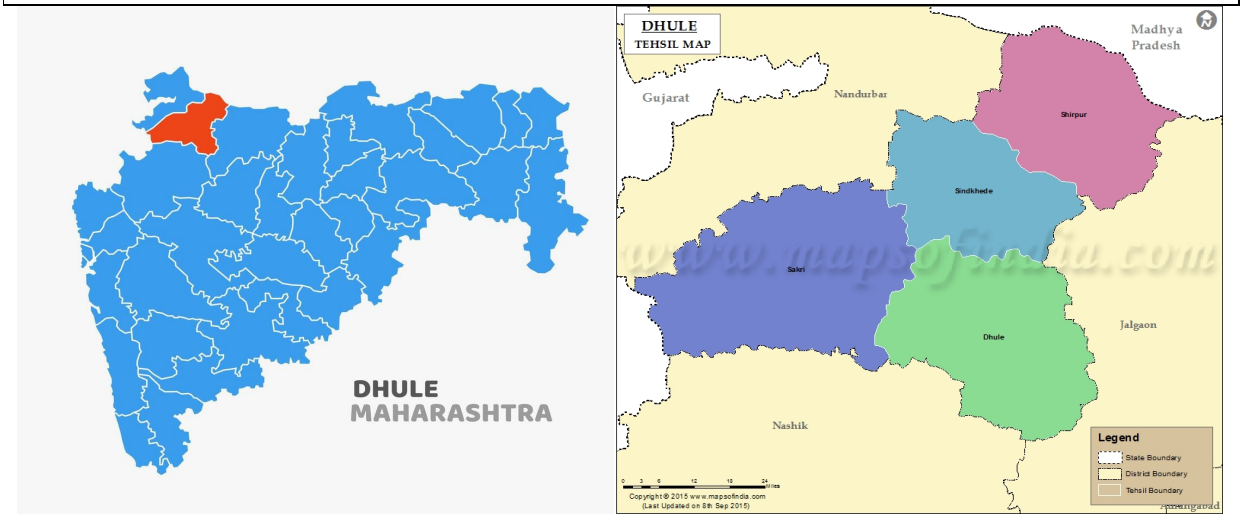
   Sustainable Development Goals:
   • **SDG13**: Climate Action
   • **SDG 7:** Affordable and Clean Energy
   • **SDG 8:** Decent Work and Economic Growth

Development Goals	Targeted SDG	Target Indicator (SDG Indicator)
SDG 13: Climate Action 	13.2: Integrate climate change measures into national policies, strategies and planning Target	13.2.1: Number of countries that have communicated establishment or operationalization of an integrated policy/ strategy/ plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)
SDG 7: Affordable and Clean Energy 	7.2: By 2030, increase substantially the share of renewable energy in the global energy mix Target	7.2.1: Renewable energy share in the total final energy consumption.
SDG 8: Decent Work and Economic Growth. 	8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value Target: Training, O&M staff.	8.5.1: Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.

A.3. Location of project activity >>

Name Of Wind Farm Bundle	Installed Capacity (Mw)	Village	District	State
Inno Automation	2.5	Sakri	Dhule	Maharashtra
Intech Automation	2.5	Sakri	Dhule	Maharashtra
Intech Power Kovai	1.25	Sakri	Dhule	Maharashtra
Intech Power Chennai Pvt Ltd.	6.25 3.15	Sakri GADAG	Dhule Belahandi	Maharashtra Karnataka

KARNATAKA



MAHARASHTRA

Customer Name	No of WEC	Per device Capacity	Total Capacity	Date of Commissioning	SITE	LOCATION	STATE	Geo Coordinates
INNO AUTOMATION INDIA PVT LTD	1	1.25	1.25	2005	SAKRI	DHULE	MAHARASHTRA	21°11'37.6"N, 74°12'30.7"E
INNO AUTOMATION INDIA PVT LTD	1	1.25	1.25	2006	GHATNANDRE	SANGLI	MAHARASHTRA	17°10'04.6"N, 74°54'50.3"E
INTECH AUTOMATION PVT LTD	1	1.25	1.25	01-09-2005	SAKRI	DHULE	MAHARASHTRA	21°13'04.6"N ,74°19'35.1"E
INTECH AUTOMATION PVT LTD	1	1.25	1.25	01-09-2005	SAKRI	DHULE	MAHARASHTRA	21°13'12.1"N ,74°19'52.9"E
INTECH POWER KOVAI PVT LTD	1	1.25	1.25	01-03-2006	SAKRI	DHULE	MAHARASHTRA	21°11'55.5"N ,74°12'48.1"E
INTECH SYSTEMS CHENNAI PVT LTD	1	1.25	1.25	01-09-2006	SAKRI	DHULE	MAHARASHTRA	21°13'57.9"N ,74°24'02.0"E
INTECH SYSTEMS CHENNAI PVT LTD	1	1.25	1.25	01-09-2006	SAKRI	DHULE	MAHARASHTRA	21°14'14.5"N ,74°24'02.2"E
INTECH SYSTEMS CHENNAI PVT LTD	1	1.25	1.25	01-09-2006	SAKRI	DHULE	MAHARASHTRA	21°14'01.8"N ,74°24'21.0"E
INTECH SYSTEMS CHENNAI PVT LTD	1	1.25	1.25	01-09-2006	SAKRI	DHULE	MAHARASHTRA	21°14'25.4"N ,74°24'33.3"E
INTECH SYSTEMS CHENNAI PVT LTD	1	1.25	1.25	01-09-2006	SAKRI	DHULE	MAHARASHTRA	21°11'54.5"N ,74°17'53.4"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'10.3"N ,75°36'58.7"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'12.3"N ,75°36'52.4"E
INTECH SYSTEMS	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'06.8"N ,75°36'52.8"E

CHENNAI PVT LTD								
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'09.6"N ,75°36'45.9"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'15.9"N ,75°36'45.8"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'12.5"N ,75°36'38.1"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'07.3"N ,75°36'38.6"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'04.6"N ,75°36'31.1"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'15.4"N ,75°36'23.5"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°20'12.4"N ,75°36'17.5"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°19'46.2"N ,75°36'19.0"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°19'40.3"N ,75°36'19.4"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°19'35.5"N ,75°36'20.4"E
INTECH SYSTEMS CHENNAI PVT LTD	1	0.225	0.225	01-02-2008	GADAG	GADAG	KARNATAKA	15°19'29.5"N ,75°36'21.1"E

Sl No	Company Name	Cap. in MW	Commissioning Date	No of WEGs	WTG Make	State
1	Intech Power Systems Chennai Pvt Ltd	6.25	Sep-2006	5	Suzlon	Maharastra
		3.15	Feb-2008	14	GWL	Karnataka
2	Intech Power Kovai Pvt Ltd	1.25	-	1	Suzlon	Maharashtra
3	Intech Automation Pvt Ltd	2.5	Sep-2005	2	Suzlon	Maharastra
4	Inno Automation India Pvt Ltd	2.5	2005 & 2006	2	Suzlon	Maharastra

A.4. Technologies/measures >>

The wind turbine features a rated power of 1,250 kW, operating effectively between a cut-in wind speed of 4.0 m/s and a cut-out speed of 20.0 m/s, with a survival wind speed of 52.5 m/s. Its 66.0-meter rotor, comprising three GFK/Epoxy blades, sweeps an area of 3,421 m², achieving a maximum rotor speed of 20.6 RPM and a tip speed of 71 m/s. The turbine employs a three-stage spur/planetary gearbox with a 0.09375 ratio, paired with an asynchronous generator running at 1,506 RPM and 690 V, connected to a 50 Hz grid. The conical steel tube tower, with a hub height of 74.5 meters, is painted for corrosion protection, ensuring durability and efficient power generation.

MODEL NO S-66

POWER	
Rated power:	1,250.0 kW
Flexible power ratings:	-
Cut-in wind speed:	4.0 m/s
Rated wind speed:	12.0 m/s
Cut-out wind speed:	20.0 m/s
Survival wind speed:	52.5 m/s
Wind zone (DIBt):	-
Wind class (IEC):	-

ROTOR	
Diameter:	66.0 m
Swept area:	3,421.0 m²
Number of blades:	3
Rotor speed, max:	20.6 U/min
Tipspeed:	71 m/s
Type:	-
Material:	GFK / Epoxy
Manufacturer:	-

Power density 1:	365.4 W/m²
Power density 2:	2.7 m²/kW

Gear box	
Type:	spur/planetary
Stages:	3
Ratio:	0.09375
Manufacturer:	-

Generator	
Type:	Asynchronus
Number:	1
Speed, max:	1,506.0 U/min
Voltage:	690.0 V
Grid connection:	50.0 Hz
Manufacturer:	-

Tower	
Hub height:	74.5 m
Type:	Steel tube
Shape:	conical
Corrosion protection:	painted
Manufacturer:	-

A.5. Parties and project participants >>

Party (Host)	Participants
India	Inno Automation, Intech Automation, Intech Power Kovai, Intech Power Chennai Pvt Ltd.

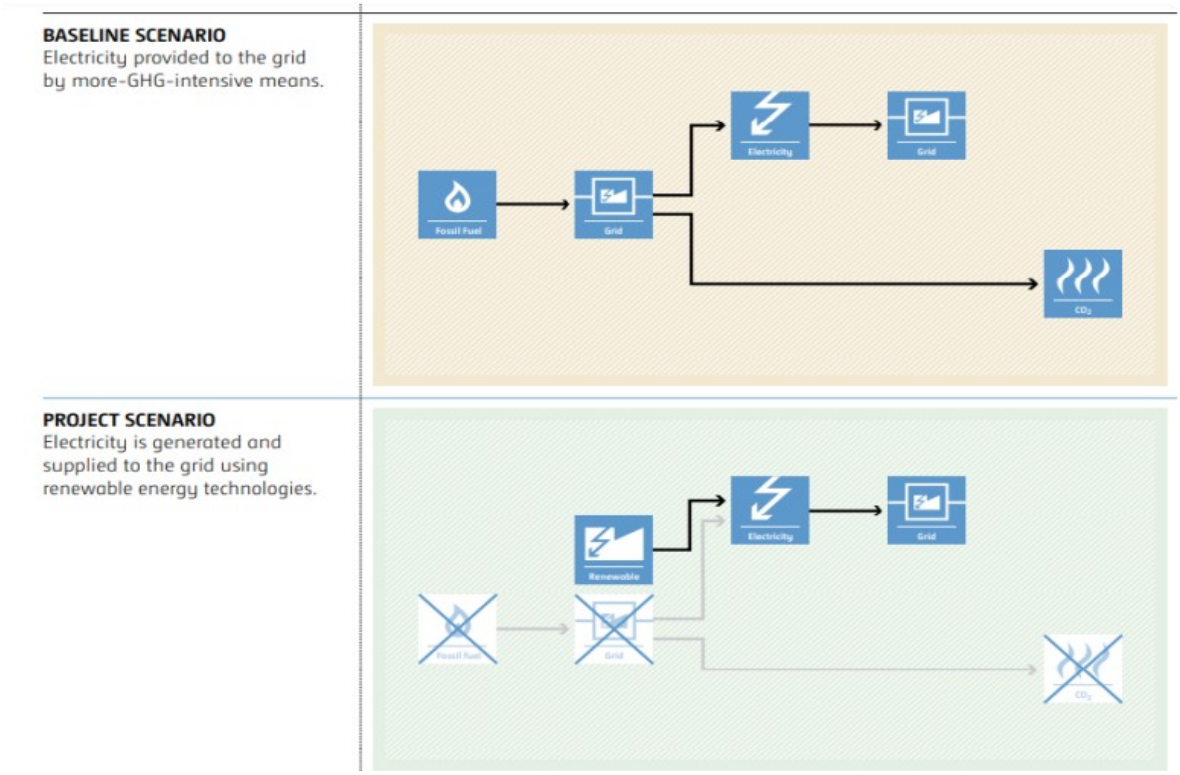
A.6. Baseline Emissions>>

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

The scenario existing prior to the implementation of the project activity, is electricity delivered to the facility by the project activity that would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources. This is a green field project activity. There was no activity at the site of the project participant prior to the implementation of this project activity. Hence pre-project scenario and baseline scenario are the same.

As per the approved consolidated methodology ACM0002 Version 22, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: "If the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources to the grid".

The Schematic diagram showing the baseline scenario:



A.7. Debundling>>

This Project 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: Renewable Energy Projects

CATEGORY- ACM0002., Consolidated baseline methodology for grid-connected electricity generation from renewable sources -Version 22.0

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

Applicability Criteria.	**Applicability status**
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 plant(s)/unit(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s), or (e) Involve a replacement of (an) existing plant(s)/unit(s). (f) Install a Greenfield power plant together with a grid-connected Greenfield pumped storage power plant. The greenfield power plant may be directly connected to the PSP or connected to the PSP through the grid.	The proposed project involves establishing a new grid-connected renewable wind power plant, confirming to the specified criteria.
2) In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that: (a)Integrate BESS with a Greenfield power plant; (b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic1 or wind power plant(s)/unit(s); (c) Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); (d) Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or wind power plant(s)/unit(s). (e) Integrate a BESS together with a Greenfield power plant that is operating in coordination with a PSP. The BESS is located at site of the greenfield renewable power plant.	The project entails installing a new grid-connected renewable wind power project without the integration of a Battery Energy Storage System (BESS). Therefore, this condition does not apply to the project activity.
3)The methodology is applicable under the following conditions: (a) 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	The proposed project involves installing new wind power plants without integrating a Battery Energy Storage System (BESS). Thus, the mentioned criterion does not apply

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; (c) In case of Greenfield project activities applicable under paragraph 7(a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g., by referring to feasibility studies or investment decision documents); (d) The BESS should be charged with electricity generated from the associated renewable energy power plant(s). Only during exigencies2 may the BESS be charged with electricity from the grid or a fossil fuel electricity generator. In such cases, the corresponding GHG emissions shall be accounted for as project emissions following the requirements under section 5.4.4 below. The charging using the grid or using fossil fuel electricity generator should not amount to more than 2 per cent of the electricity generated by the project renewable energy plant during a monitoring period. During the time periods (e.g., week(s), months(s)) when the BESS consumes more than 2 per cent of the electricity for charging, the project participant shall not be entitled to issuance of the certified emission reductions for the concerned periods of the monitoring period. (e) In case the project activity involves PSP, the PSP shall utilize the electricity generated from the renewable energy power plant(s) that is operating in coordination with the PSP during pumping mode	
4)In case of hydro power plants, one of the following conditions shall apply: a)The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs; or b)The project activity is implemented in an existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (7) is greater than 4 W/m2; or c)The project activity results in new single or multiple reservoirs and the power density calculate equation (7), is greater than 4 W/m2. d)The project activity is an integrated hydro power project involving multiple reservoirs, where the power density of any of the reservoirs, calculated using equation (7), 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	The proposed project involves the installation of wind power plants/units. Hence, the mentioned criterion is not applicable.

capacity of the integrated project, as per equation (8), 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 are: 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.	
5)In the case of integrated hydro power projects, project proponent shall: a)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 b)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 CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability indifferent 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 CDM project activity.	The proposed project activity involves the installation of wind power plants/units. Therefore, the mentioned criteria are not applicable.
6) In the case of PSP, the project participants shall demonstrate in the PDD that the project is not using water which would have been used to generate electricity in the baseline.	The proposed project activity involves installing wind power plants/units. Therefore, the specified criteria are not applicable.
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;	The proposed project activity involves installing wind power plants/units. Therefore, the specified criteria are not applicable.
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 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 proposed project activity involves installing wind power plants/units. Therefore, the specified criteria are not applicable.

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

There is no double counting 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.

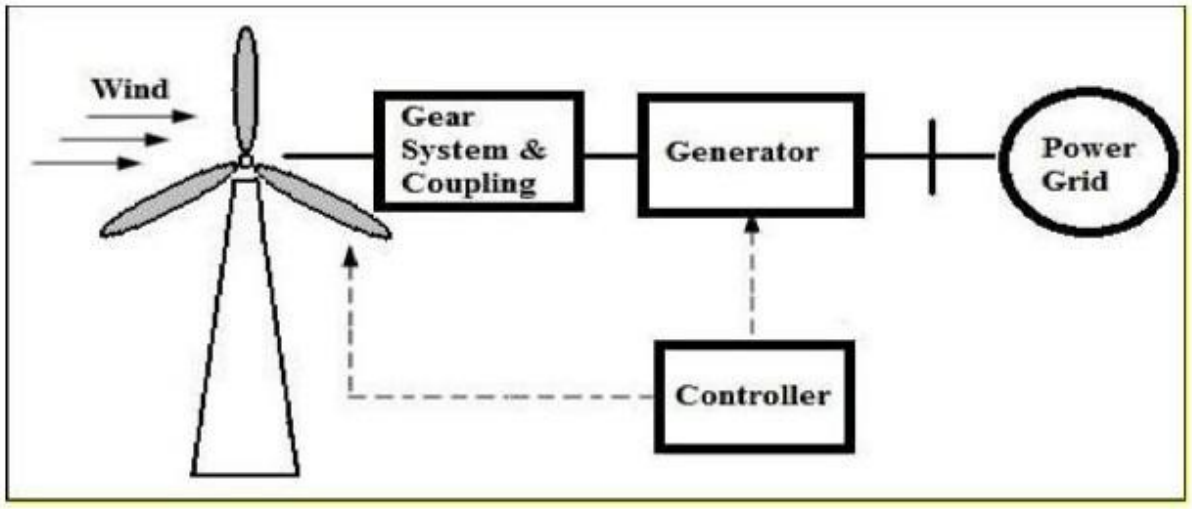
B.4. Project boundary, sources and greenhouse gases (GHGs)>>

Project boundary:

According to the methodology ACM0002, version 22.0.0 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.

The project boundary includes the WECs of the project activity, transformer, individual meters, substation & Indian which is final consumer of generated electricity.

A schematic of project boundary diagram is shown below.



The baseline study of the Indian grid shows that the main sources of GHG emissions under the baseline scenario are CO_2 emissions from the conventional power generating systems. Other

emissions are that of CH_4 and N_2O but both emissions have been excluded for simplification. The project activity generates.

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Grid connected electricity generation	CO_2	Yes	In the baseline scenario, the electricity would have been sourced from the Indian grid which in turn would be connected to fossil fuel fired power plants which emit CO_2.
		CH_4	No	No methane is expected to be emitted.
		N_2O	No	No nitrous oxide is expected to be emitted.
Project Scenario	Greenfield wind energy conversion system	CO_2	No	The project activity does not emit any emissions.
		CH_4	No	No methane is expected to be emitted.
		N_2O	No	No nitrous oxide is expected to be emitted.

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

As per the approved consolidated methodology ACM0002. version - 22, 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 grid connected wind power plant to harness the green power from wind energy. 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 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.

As per approved consolidated methodology ACM0002, version 22.0, emission reduction is estimated as difference between the baseline emission and project emission after factoring into leakage

Emission reductions are calculated as per methodology ACM0002, Version 22.0 Equation 17:

$$ER_y = BE_y - PE_y \qquad \textbf{(Eq. 1)}$$

Where,

ERy = Emissions reductions in year y (t CO2)

BEy = Baseline emissions in year y (t CO2)

PEy = Project emissions in year y (t CO2)

Baseline Emissions

The baseline emissions as per methodology ACM0002, Version 22.0, para 57 ; encompass solely the CO2 emissions stemming from electricity generation in power plants displaced by the project activity. The methodology operates on the assumption that any electricity generation exceeding baseline levels would have originated from established grid-connected power plants and the integration of new grid-connected power plants.

The Baseline emissions as per methodology ACM0002, Version 22.0 Equation 11 in year y can be calculated as follows:

$BE_y = EG_{PJ,y} * EF_{grid,,y}$

Where:

BE_y= Baseline emissions in year *y* (tCO_2/yr)

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

$EF_{grid,y}$= Grid Emission factor in year y (tCO_2/MWh)

Since the project activity is the installation of a new grid connected renewable power plant (green field project), hence, $EG_{PJ,y}$ has been calculated as :

$EG_{PJ,y} = EG_{facility,y}$

Where:

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

EGfacility,y = Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y* (MWh/yr)

A "grid emission factor" denotes the CO2 emission factor (measured in tCO2/MWh) associated with each unit of electricity supplied by an electricity system. The UCR suggests employing an emission factor of 0.9[1] from 2013 to 2023 and Emission Factor of 0.757 tCO2/MWh for 2024 as a cautious estimate for Indian projects. The same emission factor is utilized for computing emission reductions for the Project Activity.

[1]As per UCR CoU Standard Update: 2024 Vintage UCR Indian Grid Emission Factor Announced | by Universal Carbon Registry | Jan, 2025 | Medium

Project Emission:

Regarding project emissions, ACM0002 version 22.0 specifies that only emissions related to fossil fuel combustion, emissions from the operation of geothermal power plants due to the release of non-condensable gases, and emissions from water reservoirs of hydroelectric plants should be taken into account. Since the project involves a wind power project, emissions from renewable energy plants are negligible
Hence (PEy = 0).

Leakage Emission:

Leakage, as outlined in ACM0002 version 22.0, para 5.6, is considered to be zero as there is no transfer of energy-generating equipment in the project activity
Hence (LEy = 0).

Estimated baseline emission reductions (BEy) = **270257** CoUs (Total Emission Reduction)

Year	Net Generation	Baseline Emissions	Project Emissions	Leakage	Emission Reductions	EF
	MWh	(tCO_2e)	(tCO_2e)	(tCO_2e)	(tCO_2e)	(tCO2/MWh)
Year 1	31531.62	28378.46	0.00	0.00	28378.46	0.9
Year 2	31531.62	28378.46	0.00	0.00	28378.46	0.9
year 3	31531.62	28378.46	0.00	0.00	28378.46	0.9
Year 4	31531.62	28378.46	0.00	0.00	28378.46	0.900
Year 5	31531.62	28378.46	0.00	0.00	28378.46	0.900
Year 6	31531.62	28378.46	0.00	0.00	28378.46	0.900
Year 7	31531.62	28378.46	0.00	0.00	28378.46	0.900
Year 8	31531.62	23869.44	0.00	0.00	23869.44	0.900
Year 9	31531.62	23869.44	0.00	0.00	23869.44	0.900
Year 10	31531.62	23869.44	0.00	0.00	23869.44	0.757
Total Emission reduction	**315316**	**270257**	**0**	**0**	**270257**	
Average Emission Reduction	31532	27026	0	0	27,026	

B.6. Prior History>>

The project activity has not been registered or applied for voluntary carbon benefits under any other GHG program and hence there is no double counting issue of CoUs.

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

In accordance with the date stipulated in the Business Transfer Agreements (BTA) of the project proponents, the start date of crediting under UCR has been considered from 01/09/2020.

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

There are no permanent changes from registered PCN monitoring plan and applied methodology

B.9. Monitoring period number and duration>>

First Issuance Period: 4 years, 4 months – 01/09/2020 to 31/12/2024

B.8. Monitoring plan>>

The project activity essentially involves generation of electricity from wind, the employed WEGs can only convert wind energy into electrical energy and cannot use any other input fuel for electricity generation. Thus, no special ways and means are required to monitor leakage from the project activity. The recording of the electricity fed to the state utility grid is carried out jointly at the incoming feeder of the state power utility. The joint measurement is carried out once in a month in presence of both parties (the developer's representative and officials of the state power utility). Both parties sign the recorded reading.

Data/Parameter	EGy, net
Data unit	MWh
Description	Net electricity supplied to the grid by the Project activity.
Measurement methods and procedures	Data Type: Measured Monitoring equipment: Energy Meters are used for monitoring Calibration frequency: once in five years (as per CEA Indian provision) Cross checking: Quantity of net electricity supplied to or consumed at PP's facility will be cross-checked from the monthly bills or invoices raised. The Net electricity supplied to the grid will be calculated by the values of electricity export to the grid.The Net electricity is recorded as follows: Thus, $EG_{PJ,y} = EG_{Net,Export}$
Value Applied	**31532** (Annualized average value has been 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)
Monitoring frequency	The net energy exported to the grid is measured every month using calibrated energy meter by the State

	Electricity Board authorities in the presence of the project implementer or its representatives. The meter/s shall be jointly inspected and sealed by authorised representatives of the company and the state utility. Measuring procedure: Will be measured by an export-import energy meter. The net electricity exported by the project plant would either be directly sourced as a measured parameter or be calculated by deducting the amount of imported electricity from the total amount of exported electricity. Accuracy class of energy meter: 0.2s Calibration Frequency: As per the Central Electricity Authority the testing and calibration frequency should be once in five years[2].
Purpose of data	For baseline emission calculations

Data / Parameter:	*EF*Grid,y
Data unit:	tCO2 /MWh
Description:	A "grid emission factor" refers to a CO2 emission factor (tCO2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO2/MWh for the period 2013 - 2023 and 0.757 tCO2/MWh from 2024 as a fairly conservative estimate for Indian projects. Hence, the same emission factor has been considered to calculate the emission reduction under conservative approach.
Source of data:	UCR CoU Standard Update: 2024 Vintage UCR Indian Grid Emission Factor Announced | by Universal Carbon Registry | Jan, 2025 | Medium
Measurement procedures (if any):	-
Monitoring frequency:	Ex-ante fixed parameter
QA/QC procedures:	For the calculation of Emission Factor of the grid
Any comment:	-

[2] https://cea.nic.in/wp-content/uploads/2020/02/meter_reg.pdf