



PROJECT CONCEPT NOTE

CARBON OFFSET UNIT (CoU) PROJECT



Title: 25.2 MW Bundled Wind & Solar Power Project by M/s Colourtex Industries Pvt. Ltd.

Version 1.0

PCN Date: 06-07-2026

1st CoU Issuance Period: 01/01/2022 to 31/12/2025 (4 Years)

1st Monitored Period: 01/01/2022 to 31/12/2025 (4 Years)



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

BASIC INFORMATION

Title of the project activity	25.2 MW Bundled Wind & Solar Power Project by M/s Colourtex Industries Pvt. Ltd.
Scale of the project activity	Large Scale
Completion date of the PCN	06-07-2026
Project participants	M/s Colourtex Industries Pvt. Ltd. (Project Proponent)
Host Party	India
Applied methodologies and standardized baselines	Applied Baseline Methodology: ACM0002: 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	To be estimated during verification [An ex-ante estimate is 29694 CoUs per year]

SECTION A. Description of project activity

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

The title of the project activity is “25.2 MW Bundled Wind & Solar Power Project by M/s Colourtex Industries Pvt. Ltd. ” (herein after called as project proponent ‘PP’), is a Wind & Solar Power Project located across the districts of Bharuch, Jamnagar, Bhavnagar & Kutch in the state of Gujarat. 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 a bundled renewable power generation activity which incorporates the installation and operation of windmills and solar panels having an aggregated installed capacity of 25.2 MW, located in Rabarika, Medi, Beraja, Matalpar, Laiyari, Kurchan, Kosa & Kurchan villages in the state of Gujarat, India. The project has been promoted by M/s Colourtex Industries Pvt. Ltd., with Dakshin Gujarat Vij Company Limited (DGVCL) being the associated DISCOM for the project activity.

Commissioning dates of the Wind Turbine Generators installed are shown in the below table:

WIND PROJECTS				
Sr. No.	Location ID	WTG ID No.	Capacity (MW)	Commissioning Date
1	JPGJ177	SEL/2100/20-21/6371	2.1	30-03-2021
2	NMT240	SEL/2600/21-22/6567	2.6	08-06-2022
3	NMT-307	CIPL-1/SUZLON/2100/24-25/8132	2.1	21-02-2025
4	NMT-414	CIPL-2/SUZLON/2100/24-25/8133	2.1	21-02-2025
5	PALMTP25	SEL/2100/16-17/3933	2.1	30-09-2016
6	JMD284	SEL/2100/11-12/2092	2.1	14-06-2011
7	JMA189	SEL/2100/15-16/3803	2.1	30-06-2016

SOLAR PROJECT			
Sr. No.	Solar Id	Capacity (MW)	Commissioning Date
1	GMSPVINDGEDA242 2021-237	10	01-09-2022

The project will generate approximately 36484.5 MWh of electricity per annum. The net generated electricity from the project activity is for captive consumption by the project proponent. Wheeling agreement is signed between PP and Dakshin Gujarat Vij Company Limited (DGVCL). The project activity has been helping in greenhouse gas (GHG) emission reduction by using renewable resources (wind energy) for generating power which otherwise would have been generated using grid mix power plants, which is dominated by fossil fuel based thermal power plants. The estimated annual average and the total CO₂e emission reduction by the project activity is expected to be 29694 t/CO₂, 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 generates electricity through wind and solar energy, a clean renewable energy source it will not cause any negative impact on the environment and thereby contributes to climate change mitigation efforts.

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:

There has been good employment opportunities created for the local workforce during the project construction phase. The project after implementation has also continued to provide employment opportunities for the local populace in a sustained manner and the same would be continued over the project life time. The employment opportunities created will contribute towards alleviation of poverty in the surrounding area throughout the lifetime of the project activity.

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 will create additional employment opportunities in the region. The plant will reduce the demand from the grid. In addition, improvement in infrastructure will provide new opportunities for industries and economic activities to be setup in the area. Apart from getting better employment opportunities, the local people will get better prices for their land, thereby resulting in overall economic development.

Technological well-being:

The project activity employs state of art technology which has high power generation potential with optimized utilization of land. 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 will generate 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 will 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.

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:

Environmental criteria may include a company's energy use, waste, pollution, natural resource conservation, and treatment of animals etc. For the project proponent, energy use 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 company might face and how those risks are being managed by the company. 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. With respect to this project, the Project Proponent has robust policies in place to ensure equitable employment, health & safety measures, local jobs creation etc. Also, the organizational CSR activities directly support local stakeholders to ensure social sustainability. Thus, the project contributes to ESG credentials.

Under Governance:

Governance criteria relates to overall operational practices and accounting procedure of the organization. With respect to this project, the Project Proponent practices a good governance practice with transparency, accountability and adherence to local and national rules & regulations etc. This can be further referred from the company's annual report. 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.

SDG	Relevant SDG Target	Description – How the Project Contributes
 SDG 7 Affordable and Clean Energy	Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.	The project deploys solar photovoltaic as well as wind turbine technology to generate renewable electricity, thereby increasing the share of clean energy in the regional power mix and enhancing energy security.
 SDG 8 Decent Work and Economic Growth	Target 8.4: Improve progressively, through 2030, global resource efficiency in consumption and production.	The project supports sustainable industrial growth by creating skilled and semi-skilled employment during installation, operation, and maintenance of solar facilities while promoting clean technology.
 SDG 13 Climate Action	Target 13.2: Integrate climate change measures into national policies, strategies and planning.	This 25.2 MW bundled wind & solar meet the SDG 13 goal by saving fossil fuel and produce clean energy. The project is expected to reduce 29,694 t/CO₂ emissions per year by displacing fossil fuel-based grid electricity with solar power, thereby contributing to climate change mitigation and low-carbon development.

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

There was no harm identified from the project and hence no mitigations measures are applicable.

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), 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.

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

A.3. Location of project activity >>

Village	:	Rabarika, Medi, Beraja, Matalpar, Laiyari, Kurchan & Kosa
Taluka	:	Jesar, Beraja, Jamnagar, Jamjodhpur, Bharuch
District	:	Bharuch, Jamnagar, Bhavnagar & Kutch
State	:	Gujarat
Country	:	India

Coordinates of the project are given in the following table.

Sr. No.	WTG ID	Latitude	Longitude	District
1	JJPGJ177	22.0057770	69.9633410	Jamnagar
2	NMT240	22.349139	70.308083	Jamnagar
3	NMT-307	22.281275	70.17618	Jamnagar
4	NMT-414	22.262957	70.170712	Jamnagar
5	PALMTP25	21.315829	71.751688	Bhavnagar
6	JMD284	23.327667	68.714750	Kutch
7	JMA 189	23.387778	68.776667	Kutch

Sr. No.	Solar ID	Latitude	Longitude	District
1	GMSPVINDGEDA2 422021-237	21.909489	72.957203	Bharuch

The representative location map is included below:

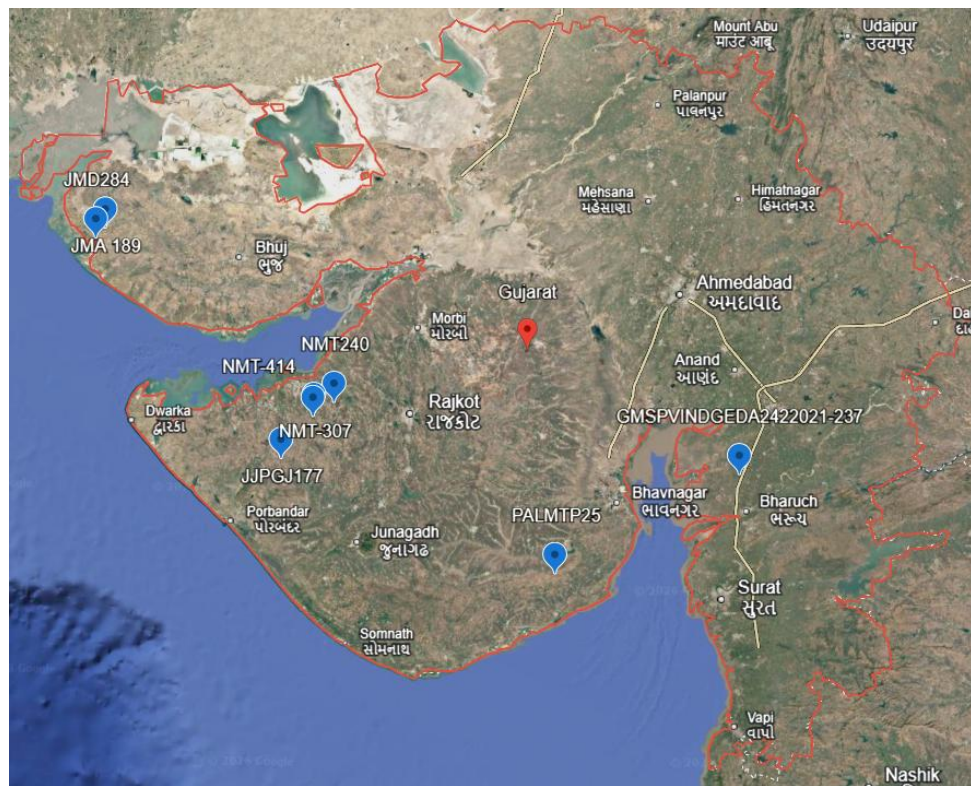
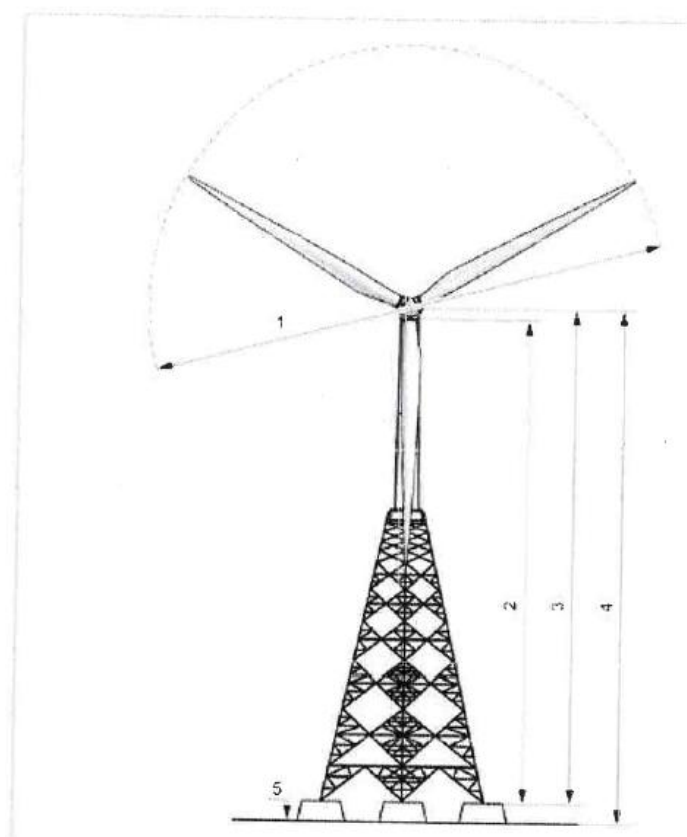


Figure 1 Project Location

A.4. Technologies/measures >>

Technical details for the machines installed at all the locations with aggregated capacity of 25.2 MW are as follows:



1	Rotor diameter	120 m
2	Tower height	138.10m
3	Tower type	Hybrid lattice tower (HLT)
4	Hub height	140 m
5	Foundation level	Site-specific (0.5 m)

Description	Information
Wind	IEC S
WTG certification Scheme	IEC 61400-1 edition 3
Estimated service life	20 years
Ambient temperature range – operation	HTV light : “0 to 45 °C”
Ambient temperature range – Survival	HTV light : “0 to 50 °C”
A-factor (scale parameter)	8.15 m/s
Form factor (shape parameter) k	2.0 and 2.5
Annual average wind speed	7.25 m/s
Vertical average shear component	0.2
Extreme wind speed (10-minute average)	36.5 m/s / 35.0 m/s
Survival wind speed (3-second average)	51.1 m/s / 49.0 m/s
Reference turbulence intensity according to IEC 61400	0.14
Air density	1.16 kg/m ³
Altitude (Height above sea level)	Max. 1000 m above sea level (refers to tower bottom ground level)

Details of Solar Installation

Equipments	Make	Capacity	Sr. No.	Voltage level/Voltage ratio (KV)
Transformer	NAKODA PRODUCTS	7000.0 KVA	NP-22-17	0.8/11
HT Breaker	LandT	800.00 AMP	D-2022-337	12.0
Transformer	NAKODA PRODUCTS	2000.0 KVA	NP-22-16	0.8/11
HT Breaker	LandT	800.00 AMP	E-2022-161	12.0

No.	Particular	Solar PV Cells (Modules)
1	Make	WAAREE
2	Capacity (Wp)	335
3	Total No. of Modules	29880
4	Total Capacity (KWp)	10009.8

No.	Particular	Inverters
1	Make	SUNGROW,SUNGROW
2	Capacity in KW/KVA	200KW,200KW
3	No. Of Inverters	4,32
4	Output Voltage in AC(V)	800,800
5	Sr. No.	A20C2138948, A2152505236, A2241100942, A2241100937,I2206140190, I2206140253, I2206140282, I2206140275, I2206140285, I2206140286, I2206140291, I2206140293, I2206140297, I2206140304, I2206140305, I2206140306, I2206140307, I2206140309, I2206140311, I2206140314, I2206140316, I2206140317, I2206140318, I2206140319, I2206140324, I2206140327, I2206140329, I2206140330, I2206140331, I2206140332, I2206140333, I2206140335, I2206140337, I2206140338, I2206140348, I2206140354

Type of Line	Length of Line(KM)	Total Location No.	From Location	To Location
UG Cable	1.30000	8	Inverter duty transformer 1 and 2 to ICOG Panel 1 and 2	11/66 kV KPIG Energia Pvt Ltd Pooling Substation

In the absence of the project activity the equivalent amount of electricity would have been generated from the connected/ new power plants in the NEWNE grid, which are/ will be 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.5. Parties and project participants >>

Party (Host)	Participants
India	M/s Colourtex Industries Pvt. Ltd. (Project Proponent) Colourtex Industries Pvt. Ltd. (Unit-20), Survey No 80, FPNo. 15,16,21, GIDC, Pandesara, Surat. Pin - 394221. Gujarat, India.

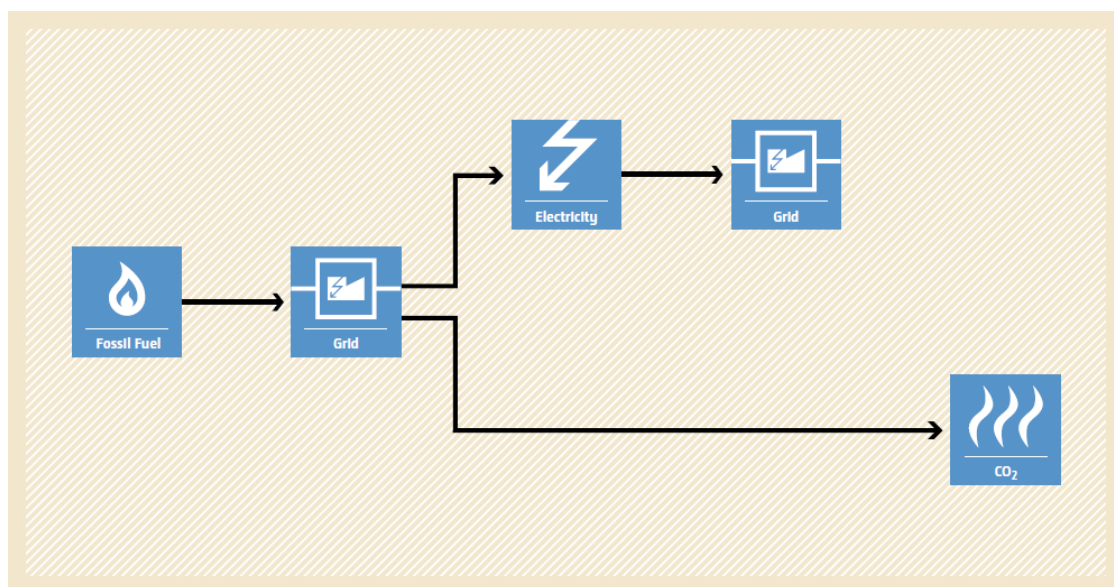
A.6. Baseline Emissions>>

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 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 pre- project scenario.

Schematic diagram showing the **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:

ACM0002., (Title: “Grid-connected electricity generation from renewable sources”, Version 22.0)

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

This project is included within the UCR Standard Positive List of technologies and is within the large -scale CDM thresholds (e.g. installed capacity greater than 15 MW). The UCR positive list comprises of: (a) generation of grid connected electricity from the construction and operation of a new wind power-based power project for supply to grid
Project activity involves power generation with installed capacity of 25.2 MW.
The project activity is a Renewable Energy Project i.e., Wind & Solar 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 of ACM0002
The project activity is wind and solar energy power project and not a hydro power project activity.
The project activity does not involve any retrofit measures nor any replacement to existing WEGs or Solar PV Panels. Hence there are no new units having either renewable or non-renewable components (e.g., a wind/diesel unit).
The project activity is not a combined heat and power (co-generation) system.
No biomass is involved; the project is only a wind energy power project. The case for retrofit, rehabilitation or replacement, towards a Large-scale project is also not applicable.
The project activity is a voluntary coordinated action. The project activity is a greenfield of 25.2 MW Wind & Solar Power Project, i.e., no capacity addition was done to any existing power plant.
The project activity is not a landfill gas, waste gas, wastewater treatment and agro-industries project, and does not recover methane emissions and is not eligible under any relevant Type III category.
The project activity comprises of renewable power/energy generation through wind energy and displaces fossil fuel powered electricity from the regional grid by supplying renewable power to the grid itself. Hence this UNFCCC CDM Methodology is applicable and fulfilled.
The project activity involves the installation of new power plants at listed sites where there was no renewable energy power plant operating prior to implementation of 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 ACM0002 version 22.0, the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the UCR project power plants are connected.

The project boundary encompasses the physical, geographical site of the wind and solar power plant, the energy metering equipment and the connected regional electricity grid.

Source		Gas	Included?	Justification/Explanation
Baseline	CO ₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity	CO ₂	Yes	Main emission source
		CH ₄	No	Minor emission source
		N ₂ O	No	Minor emission source
Project activity	For dry or flash steam geothermal power plants, emissions of CH ₄ and CO ₂ from non-condensable gases contained in geothermal steam	CO ₂	Yes	Main emission source
		CH ₄	Yes	Main emission source
		N ₂ O	No	Minor emission source
	For binary geothermal power plants, fugitive emissions of CH ₄ and CO ₂ from noncondensable gases contained in geothermal steam	CO ₂	Yes	Main emission source
		CH ₄	Yes	Main emission source
		N ₂ O	No	Minor emission source

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 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 wind power plant to harness the green power from wind energy and to use for captive purpose via grid interface through wheeling arrangement. 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.

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 Universal Carbon Registry (UCR) recommends a default conservative emission factor of 0.9 tCO₂/MWh for the vintage years 2013–2023.

The project uses a more recent and conservative figure of 0.757 tCO₂/MWh for the 2024 vintage year, and 0.736 for the 2025 vintage year which is aligned with the combined margin emission factor calculated by the Central Electricity Authority (CEA) in India. This emission factor reflects a weighted average of both the operating margin and build margin and considers the growing contribution of renewable energy but still reflects the dominance of fossil fuel-based generation. As this value results in higher emissions than the default factor, it has been used for emission reduction calculations to ensure a conservative and credible approach.

Net GHG Emission Reductions and Removals

Thus, $ER_y = BE_y - PE_y - LE_y$

Where:

ER_y = Emission reductions in year y (tCO₂/y)

BE_y = Baseline Emissions in year y (t CO₂/y)

PE_y = Project emissions in year y (tCO₂/y)

LE_y = Leakage emissions in year y (tCO₂/y)

Baseline Emissions

Baseline emissions include only CO₂ 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:

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

BE_y	=	Baseline emissions in year y (tCO 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 CDM 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 ACM0002. Version: 22.0, only emissions associated with fossil fuel combustion, emissions from the operation of geothermal power plants due to the release of non-condensable gases, and emissions from a water reservoir of hydro should be accounted for the project emission. Since the project activity is a solar and wind electric power project, it's emission from renewable energy plants is nil.

Thus, **PE** = **0**

Leakage

As per ACM0002. Version: 22.0, '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 zero.

Hence, **LE** = **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)

29694 tCO₂/year (i.e., 29694CoUs/year)

B.6. Prior History>>

The project was not applied under any other GHG mechanism. Hence project will not cause double accounting of carbon credits (i.e., COUs).

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

The crediting period under UCR has been considered 01/01/2022

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

Not applicable.

B.9. Monitoring period number and duration>>

First CoU Issuance Period : 2022-2025

Date : 01-01-2022 to 31-12-2025

B.10. 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 CO₂ emission factor (tCO₂/MWh) which will be associated with each unit of electricity provided by an electricity system. The Universal Carbon Registry (UCR) recommends a default conservative emission factor of 0.9 tCO₂/MWh for the vintage years 2013–2023. The project uses a more recent and conservative figure of 0.757 tCO₂/MWh for the 2024 vintage year, and 0.736 for the 2025 vintage year which is aligned with the combined margin emission factor calculated by the Central Electricity Authority (CEA) in India. This emission factor reflects a weighted average of both the operating margin and build margin and considers the growing contribution of renewable energy but still reflects the dominance of fossil fuel-based generation. As this value results in higher emissions than the default factor, it has been used for emission reduction calculations to ensure a conservative and credible approach.
Source of data	https://a23e347601d72166dcd6-16da518ed3035d35cf0439f1cdf449c9.ssl.cf2.rackcdn.com/Documents/UCRStandardJan2022updatedVer3_110122005517752478.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

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

Data / Parameter	EG _{PJ, facility, y}
Data unit	MWh
Description	Net electricity supplied to the NEWNE grid facility by the project activity
Source of data	Wind energy certificate issued by GETCO (Gujarat Energy Transmission Corporation Limited)
Measurement procedures (if any):	Data Type: Measured Monitoring equipment: Energy Meters are used for monitoring Archiving Policy: Electronic Calibration frequency: Once in 5 years (considered as per provision of CEA India). The net electricity generated by the project activity will be calculated from net electricity supplied to grid from the share certificate issued by state utility (currently GETCO) on monthly basis for respective WTGs. The amount of energy supplied by the WTGs are continuously monitored and recorded once a month. The same can be cross-checked from the State utility website which is publicly available.
Measurement Frequency:	Monthly
QA/QC procedures applied:	Continuous monitoring, hourly measurement monthly recording. Tri-vector (TVM)/ABT energy meters with accuracy class 0.2s
Purpose of data:	The Data/Parameter is required to calculate the baseline emission.