

المجلس العالمي للبصمة الكربونية
GLOBAL CARBON COUNCIL



**Project
Submission
Form**

V4.0- 2022

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COVER PAGE- Project Submission Form (PSF)	
BASIC INFORMATION	
Title of the Project Activity as per LON/LOA	Bundled Wind Power Project in Tamilnadu, coordinated by VEC-003
PSF version number	01
Date of completion / Updating of this form	19/02/2023
Project Owner(s) as per LON/LOA <small>(Shall be consistent with De-registered CDM Type B Projects)</small>	Ventus Energy Consultants ¹
Country where the Project Activity is located	India
GPS coordinates of the project site(s)	Refer Section A.2 for detailed information
Eligible GCC Project Type as per the Project Standard <small>(Tick applicable project type)</small>	<input checked="" type="checkbox"/> Type A: <input type="checkbox"/> Type A1 <input checked="" type="checkbox"/> Type A2 <input checked="" type="checkbox"/> Sub-Type 1 <input type="checkbox"/> Sub-Type 2 <input type="checkbox"/> Sub-Type 3 <input type="checkbox"/> Sub-Type 4 <input type="checkbox"/> Type A3 <input type="checkbox"/> Type B – De-registered CDM Projects:²

¹ Act as project owner

² Owners of Type B projects shall fill in the form provided in Appendix 7.

	<input type="checkbox"/> Type B1 <input type="checkbox"/> Type B2
Minimum compliance requirements	<input checked="" type="checkbox"/> Real and Measurable GHG Reductions <input checked="" type="checkbox"/> National Sustainable Development Criteria (if any) <input checked="" type="checkbox"/> Apply credible baseline and monitoring methodologies <input checked="" type="checkbox"/> Additionality <input checked="" type="checkbox"/> Local Stakeholder Consultation Process <input checked="" type="checkbox"/> Global Stakeholder Consultation Process <input checked="" type="checkbox"/> No GHG Double Counting <input checked="" type="checkbox"/> Contributes to United Nations Sustainable Development Goal 13 (Climate Action)
Choose optional and additional requirements <small>(Tick applicable label categories)</small>	<input checked="" type="checkbox"/> Do-no-net-harm Safeguards to address Environmental Impacts <input checked="" type="checkbox"/> Do-no-net-harm Safeguards to address Social Impacts <input checked="" type="checkbox"/> Contributes to United Nations Sustainable Development Goals (in addition to Goal 13)
Applied methodologies including version No. <small>(Shall be approved by the GCC or the CDM)</small>	ACM002 Grid-connected electricity generation from renewable sources - Version 20.0
GHG Sectoral scope(s) linked to the applied methodology(ies)	GHG-SS # 1 (Energy (renewable/non-renewable sources))

Applicable Rules and Requirements for Project Owners (Tick applicable Rules and Requirements)	Rules and Requirements		Version
	<input checked="" type="checkbox"/> ISO 14064-2		
<input checked="" type="checkbox"/> Applicable host country legal requirements /rules			
<input checked="" type="checkbox"/> GCC Rules and Requirements ³	<input checked="" type="checkbox"/> Project Standard	03.1	
	<input type="checkbox"/> Approved GCC Methodology (XXXXX)		
	<input checked="" type="checkbox"/> Program Definitions	03.1	
	<input checked="" type="checkbox"/> Environment and Social Safeguards Standard	3.0	
	<input checked="" type="checkbox"/> Project Sustainability Standard	3.1	
	<input checked="" type="checkbox"/> Instructions in Project Submission Form (PSF)-template	4.0	
	<input checked="" type="checkbox"/> Clarification No. 01	1.3	
	<input type="checkbox"/> Clarification No. 02		
	<input type="checkbox"/> Clarification No. 03		
	<input type="checkbox"/> Clarification No. 04		
	<input type="checkbox"/> Clarification No. 05		
	<input checked="" type="checkbox"/> Standard on avoidance of double counting	1.0	
	<input type="checkbox"/> Add rows if required		
<input checked="" type="checkbox"/> CDM Rules ⁴	<input checked="" type="checkbox"/> Approved CDM Methodology (XXXXX)	ACM0002, Ver 20.0	
	<input checked="" type="checkbox"/> TOOL 1- Tool for the demonstration and assessment of additionality	07.0.0	
	<input type="checkbox"/> TOOL 02- Combined tool to identify the baseline scenario and demonstrate additionality		
	<input checked="" type="checkbox"/> TOOL 07- Tool to calculate the emission	07.0	

³ GCC Program rules and requirements: <http://www.globalcarboncouncil.com/resource-centre/>

⁴ CDM Program rules: <https://cdm.unfccc.int/Reference/index.html>

		factor for an electricity system	
		<input type="checkbox"/> TOOL 19- Demonstration of additionality of microscale project activities	
		<input type="checkbox"/> TOOL 21- Demonstration of additionality of small-scale project activities	
		<input type="checkbox"/> TOOL 23- Additionality of first-of-its-kind project activities	
		<input checked="" type="checkbox"/> TOOL 24- Common practice	3.1
		<input checked="" type="checkbox"/> TOOL 27- Investment analysis	12.0
		<input type="checkbox"/> TOOL 32- Positive lists of technologies	
		<input type="checkbox"/> Guidelines for objective demonstration and assessment of barriers	
		<input type="checkbox"/> Add rows if required	
<p>Choose Third Party Project Verification by approved GCC Verifiers⁵</p> <p>(Tick applicable verification categories)</p>	<input checked="" type="checkbox"/> GHG emission reductions (i.e., Approved Carbon Credits (ACCs)) <input checked="" type="checkbox"/> Environmental No-net-harm Label (E⁺) <input checked="" type="checkbox"/> Social No-net-harm Label (S⁺) <input checked="" type="checkbox"/> United Nations Sustainable Development Goals (SDG⁺) <input type="checkbox"/> Bronze SDG Label <input checked="" type="checkbox"/> Silver SDG Label <input type="checkbox"/> Gold SDG Label <input type="checkbox"/> Platinum SDG Label <input type="checkbox"/> Diamond SDG Label <input checked="" type="checkbox"/> CORSIA requirements (C⁺) <input type="checkbox"/> Host Country Attestation on Double counting		

⁵ **Note:** GCC Verifiers under the Individual Track are not eligible to conduct verifications for GCC Project Activities whose owners intend to supply carbon credits (ACCs) for use within CORSIA.

<p>Declaration by the ‘Authorized Project Owner⁶ and focal point’</p> <p>(Tick all applicable statements⁷)</p>	<p>The Project Owner(s) declares that:</p> <p>Generic Requirements applicable to all Project Types:</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity complies with the eligibility of the applicable project type (A1, A2, A3, B1 or B2) as stipulated by the Project Standard and relevant clarifications.</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity shall start or have started operations, and shall start or have started generating emission reductions, on or after 1 January 2016.</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity is eligible to be registered under the GCC program.</p> <p>We shall ensure the following for the Project Activity (tick at least one of the two options):</p> <p><input checked="" type="checkbox"/> No outcomes (e.g. emission reductions, environmental attributes) generated by the Project Activity under GCC will be claimed as carbon credits or environmental attributes under any other GHG/non-GHG⁸ program, either for compliance or voluntary purposes, during the entire GCC crediting period; or</p> <p><input checked="" type="checkbox"/> If the project activity has been issued with carbon credits or environmental attributes of compensating nature⁹ by any other GHG/ non-GHG program, either for compliance or voluntary purposes, the ACCs will be claimed only for the remaining crediting period (subject to a maximum of 10 years of crediting period including the periods under other programs and GCC program) for which carbon credits/ environmental attributes of compensating nature have not been issued by any other GHG/ non-GHG program.</p> <p>Specific requirements applicable to respective Project Types:</p> <p><u>For Project Type A1:</u></p> <p><input type="checkbox"/> For Project Type A1, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program.</p>
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⁶ The Project Owner means the legal entity or organization that has overall control and responsibility for the Project Activity

⁷ **Consequences in case of Non-compliance with declaration statements:**

If at any point of time non-compliance with the declared statements is established as a result of negligence, fraud or wilful misconduct of the GCC Project Owner/s the GCC project activity will be disqualified and the registration of the proposed Project Activity will be rejected.

⁸ Non-GHG program could be such as I-REC facilitating reliable energy claims with Renewable Energy Certificate (REC) schemes

⁹ The environment attributes of compensating nature are those which are used by captive users (e.g., corporates/industries) for offsetting their GHG emissions

	<p><u>For Project Type A2 (Sub-Type 1):</u></p> <p><input checked="" type="checkbox"/> For Project Type A2 Sub-Type 1, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program.</p> <p><u>For Project Type A2 (Sub-Type 2 or Sub-Type 3):</u></p> <p>For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options):</p> <p><input type="checkbox"/> Submit a proof for deregistration from CDM; or</p> <p><input type="checkbox"/> Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program.</p> <p><input type="checkbox"/> For Project Type A2 Sub-Type 2 or Project Type A2 Sub-Type 3, we confirm that the Project Activity is NOT included as a component Project Activity (CPA) in any registered GHG Programme of Activities (PoA) or any other functionally equivalent grouped/aggregated activities under any GHG program (such as the CDM or any other voluntary program).</p> <p><u>For Project Type A2 (Sub-Type 4):</u></p> <p>For Project Type A2 Sub-Type 4, we confirm that the Project Activity has been included in a registered CDM-POA and we shall (tick at least one of the two options):</p> <p><input type="checkbox"/> Submit the proof for exclusion of CPA(s) from registered CDM-POA prior to the date of initial submission to the GCC Program; or</p> <p><input type="checkbox"/> Submit the proof of exclusion of CPA(s) from the registered CDM-PoA after the request for registration has been submitted to GCC Program but before the final decision is made by the GCC Steering Committee.</p> <p><u>For Project Type A3:</u></p> <p><input type="checkbox"/> For Project Type A3, we confirm that the Project Activity is NOT registered as a GHG Project Activity in any other GHG/non-GHG program or any other voluntary program and has not issued or will not issue credits under any other program.</p> <p><u>For Project Type B1 or B2:</u></p> <p>For Project Type B1 or Project Type B2, we confirm that for Project Activity, which has been registered with CDM or any GHG/non-GHG Program and we shall (tick at least one of the two options):</p> <p><input type="checkbox"/> Submit a proof for deregistration from CDM; or</p> <p><input type="checkbox"/> Submit a signed & stamped public undertaking, stating that the Project Owner will never submit any request for Issuance of ACCs or request for</p>
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	<p>renewal of crediting period to CDM-EB or under article 6.4 or any authority after submission to GCC Program and shall formally inform CDM-EB or authority under article 6.4 or any authority after submission to GCC Program.</p> <p>Requirements to avoid double counting:</p> <p>We intend to submit or have submitted a written attestation¹⁰ (Host Country Letter of Authorization - HCLOA) from the host country's national focal point or focal point designee for CORSIA eligible units generated beyond 31 December 2020 at the following stages¹¹ (tick at least one of the three options):</p> <p><input type="checkbox"/> The initial submission for GSC; or</p> <p><input checked="" type="checkbox"/> Along with the submission for a request for registration (after Project Verification is completed); or</p> <p><input type="checkbox"/> Along with the submission for a request for the first or subsequent issuance of ACCs.</p> <p>Project specific requirements:</p> <p><u>CORSIA specific requirements:</u></p> <p><input type="checkbox"/> We confirm that bundled projects or grouped projects shall have registered crediting period starting on or after 1 Jan 2016 for the grouped/aggregated project as a whole.</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity meets all the requirement of the CORSIA Eligible Emissions Units¹² required for GCC projects and does not fall under the excluded unit types, methodologies, programme elements, and/or procedural classes.</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity aims to achieve at least Silver or higher SDG+ label (i.e. positively impact at least 3 or more United Nations Sustainability Development Goals).</p> <p><input checked="" type="checkbox"/> We confirm that the Project Activity will be implemented in a country which is UN member state¹³.</p> <p>Provide details (if any) below for the boxes ticked above:</p> <hr/> <hr/> <p>The Project Owner(s) declares that:</p>
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¹⁰ In case of any change of Host Country Letter of Authorisation (HCLOA) the project owner shall inform the GCC operations team immediately

¹¹ If the host country attestation is not submitted at the initial submission of GSC, the project can be tagged with an indicative CORSIA flag if it's confirmed to be submitted later. If the host country attestation is not submitted at the request for registration, the project can be tagged with an indicative CORSIA flag if at least the PSF and Verification Report confirms to submit this letter, at first issuance. If the host country attestation is not submitted at request for first issuance, the ACCs will not be tagged as CORSIA (C+) compliant if this letter is not submitted.

¹² CORSIA Eligible Emissions Units containing approval and conditions for GCC Program: <https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx>

¹³ The list of UN member states countries can be found at <https://www.un.org/en/about-us/member-states>

	<p><input checked="" type="checkbox"/> All of the information provided in this document, including any supporting documents submitted to the GCC or its registry operator IHS Markit at any time, is true and correct;</p> <p><input checked="" type="checkbox"/> They understand that a failure by them to provide accurate information or data, or concealing facts and information, can be considered as negligence, fraud or willful misconduct. Therefore, they are aware that they are fully responsible for any liability that arises as a result of such actions.</p> <p>Provide details below for the boxes ticked above</p>
Appendixes 1-9	Details about the Project Activity are provided in Appendixes 1 through 9 to this document.
Name, designation, date and signature of the Focal point (as per LON/LOA)	<p>Mr. P.Vijayabaskaran</p> <hr/> <p>Designation Authorized Signatory (M/s Ventus Energy Consultants)</p> <hr/> <p>Signature with date</p> <div style="text-align: center;">  </div> <p>Mr. P.Vijayabaskaran Date: 19/02/2023</p>

1. PROJECT SUBMISSION FORM

Section A. Description of the Project Activity

A.1. Purpose and general description of the Project Activity

The proposed project activity is the installation of a new grid-connected group captive bundled 21 MW wind power plant/unit at a site where no renewable power plant was operating prior to the implementation of the project activity (green-field plant). The project is implemented in Tamilnadu state of India.

The project activity uses renewable energy (wind) as a clean fuel to generate electrical energy. The total installed capacity of the project is 21 MW, which comprises 10 nos. Wind Turbine Generators (WTGs) of capacity 2100 kW (manufacturer Suzlon).

The electricity generated by the Project Activity thus replaces the equivalent amount of electricity generated by the operation of existing/ grid connected power plants (mostly fossil fuel-based power plants) and by addition of new generation sources into the grid. The Project Activity thus reduces the anthropogenic emissions of greenhouse gases (GHGs) in to the atmosphere associated with the equivalent amount of electricity generation from the existing grid connected power plants (mostly fossil fuel) and by addition of new generation sources into the grid.

The Legal owners of the project activity are as follows-

Sl. No.	Project Investor	Capacity (MW)	WTG Machine No.	Location	Commissioning Date
1	Aadhav Energy Tech Private Limited	2.1	HTSC NO 4422	Vellapaneri, Tamilnadu	31/03/2018
2	Aniruth Green India Private Limited	2.1	HTSC NO 4390	Vellapaneri, Tamilnadu	29/03/2018
3	Arun Wind Mills India Private Limited	2.1	HTSC NO 4427	Vellapaneri, Tamilnadu	30/06/2018
4	Arvind Green Infra Private Limited	2.1	HTSC NO 4388	Vellapaneri, Tamilnadu	29/03/2018
5		2.1	HTSC NO 4405	Vellapaneri, Tamilnadu	31/03/2018
6	R.Aswwatha Greens Private Limited	2.1	HTSC NO 4400	Vellapaneri, Tamilnadu	31/03/2018
7	E.R.Aditya Pure Wind Private Limited	2.1	HTSC NO 4401	Vellapaneri, Tamilnadu	31/03/2018
8	Shyamala Wind Energy Private Limited	2.1	HTSC NO 4423	Vellapaneri, Tamilnadu	31/03/2018
9	Karur Sri Rama Wind Energy Private Limited	2.1	HTSC NO 4387	Vellapaneri, Tamilnadu	29/03/2018
10	Allied Wind Powers Private Limited	2.1	HTSC NO 4407	Vellapaneri, Tamilnadu	31/03/2018

Total	21			
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The project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 37,678 tCO₂e per year, thereon displacing estimated average of 40,471 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian grid, which is mainly dominated by thermal/fossil fuel-based power plant. Project activity will mitigate the total GHG emission reductions of 376,780 tCO₂e over the total crediting period.

Baseline Scenario:

The scenario existing prior to the implementation of the project activity, is electricity delivered to the grid 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, as reflected in the combined margin (CM) calculations described in the “**Tool to calculate the emission factor for an electricity system**”. 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 is the same.

Project Boundary:

The proposed project activity will utilize the wheeled electricity via the Indian grid. Therefore, the entire Indian grid and all connected power plants have been considered in the project boundary for the proposed project activity.

The project does not involve any other emissions sources not foreseen by the methodologies. Only CO₂ is included as the greenhouse gas for this project activity.

Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India, has stipulated the following indicators for sustainable development in the interim approval guidelines for CDM projects.

1. Social well-being;
2. Economic well-being;
3. Environmental well-being; and
4. Technological well-being

1. Social well-being

The Project Activity will result in creating job opportunities for the local population on temporary and permanent basis. Manpower is required both during erection and operation of the renewable energy projects. This would result in the improvement in living standards of the local community.

The installation of the renewable energy projects also led to development of basic infrastructure like roads, communication with the nearby cities etc. which also improved in living standards of the local population.

2. Economic well-being

The Project Activity will create direct and indirect job opportunities to the local community during installation and operation of the renewable energy projects.

The investment for the Project Activity would lead to the improvement in the economic activity in the local area.

3. Environmental well-being

The Project Activity utilizes renewable energy for generating electricity which otherwise would have been generated through alternate fuel (most likely - fossil fuel) based power plants, contributing to reduction in specific emissions (emissions of pollutant/unit of energy generated) including GHG emissions. As renewable energy projects produce no end products in the form of solid waste (ash etc.), they address the problem of solid waste disposal encountered by most other sources of power. Being a renewable resource, to generate electricity contributes to resource conservation. Thus, the Project Activity causes no negative impact on the surrounding environment.

4. Technological well-being:

Clean technology transfer in renewable energy generation and optimal use of renewable energy in the industry.

The annual estimated emission reduction achieved for this crediting period is 46,498 tCO₂e/annum.

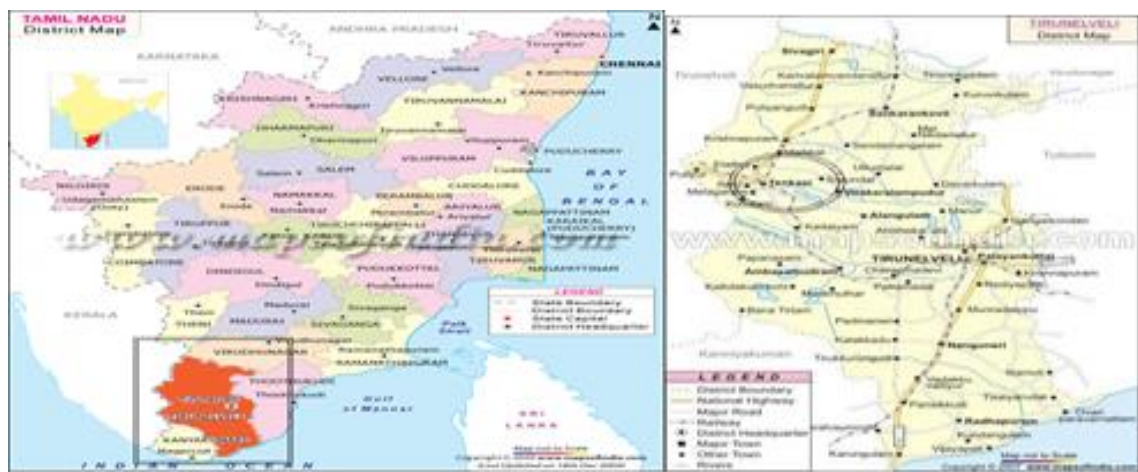
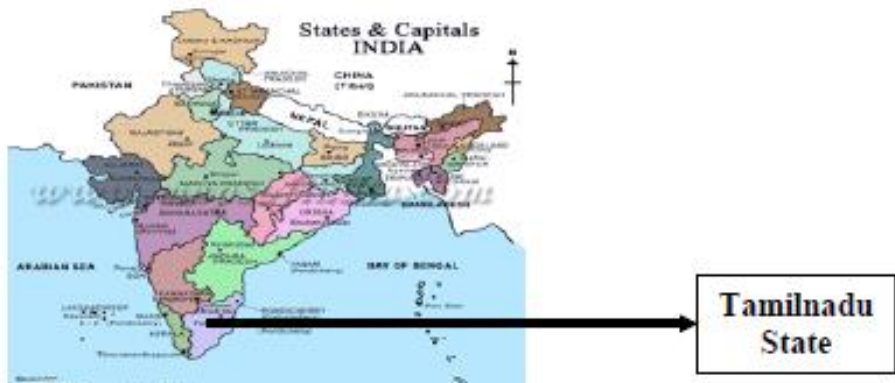
A.2. Location of the Project Activity

The WTGs involved in the project activity are located in Tamilnadu in India and the details are described in the table below –

Sl. No.	Project Investor	Capacity (MW)	Village	Taluk	District	State
1	Aadhav Energy Tech Private Limited	2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu
2	Aniruth Green India Private Limited	2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu
3	Arun Wind Mills India Private Limited	2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu
4	Arvind Green Infra Private Limited	2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu
5		2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu
6	R.Aswwatha Greens Private Limited	2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu
7	E.R.Aditya Pure Wind Private Limited	2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu
8	Shyamala Wind Energy Private Limited	2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu
9	Karur Sri Rama Wind Energy Private Limited	2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu
10	Allied Wind Powers Private Limited	2.1	Vellapaneri	Tirunelveli	Tirunelveli	Tamilnadu

Address and geodetic coordinates of the physical site of the Project Activity			
Project Investor	Physical address	Latitude	Longitude
Aadhav Energy Tech Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	8°59'08.5"N, 8.985694	77°46'15.2"E, 77.770888
Aniruth Green India Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	8°59'42.6"N, 8.995166	77°42'56.8"E, 77.715777
Arun Wind Mills India Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	8°58'22.4"N, 8.972888	77°38'54.2"E, 77.648388
Arvind Green Infra Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	9°00'19.1"N, 9.005305	77°43'11.3"E, 77.719805
Arvind Green Infra Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	9°00'39.7"N, 9.011027	77°44'35.8"E, 77.743277
R.Aswwatha Greens Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	8°50'47.9"N, 8.846638	77°50'21.8"E, 77.839388
E.R.Aditya Pure Wind Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	9°00'15.9"N, 9.004416	77°42'21.9"E, 77.706083
Shyamala Wind Energy Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	8°58'31.8"N, 8.9755	77°46'05.8"E, 77.768277
Karur Sri Rama Wind Energy Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	9°00'23.79"N, 9.006608	77°42'48.81"E, 77.713558
Allied Wind Powers Private Limited	Village-Vellapaneri, Dist.-Tirunelveli (TN)	8°59'55.8"N, 8.998833	77°44'50.2"E, 77.747277

The geographical locations for the projects are mentioned below:



A.3. Technologies/measures

The Project Activity involves the installation of wind power project. The total installed capacity of the project is 21 MW of wind power plant located in Tamilnadu state in India. The Project Activity is promoted by Ventus Energy Consultants.

The Project Activity is a new facility (Greenfield) and the electricity generated by the project will be exported to the Indian electricity grid. The Project Activity will therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. The estimated lifetime of the project activity is considered as 25 years for wind technology. This may increase depending on the operation & maintenance of the plant. In the Pre- project scenario the entire 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.

The details of the WTG's are as below -

Organization Name	Commissioning Date	Make of the WTG	Model Number
Aadhav Energy Tech Private Limited	31/03/2018	Suzlon	S97
Aniruth Green India Private Limited	29/03/2018	Suzlon	S97

Arun Wind Mills India Private Limited	30/06/2018	Suzlon	S97
Arvind Green Infra Private Limited	29/03/2018	Suzlon	S97
	31/03/2018	Suzlon	S97
R.Aswatha Greens Private Limited	31/03/2018	Suzlon	S97
E.R.Aditya Pure Wind Private Limited	31/03/2018	Suzlon	S97
Shyamala Wind Energy Private Limited	31/03/2018	Suzlon	S97
Karur Sri Rama Wind Energy Private Limited	29/03/2018	Suzlon	S97
Allied Wind Powers Private Limited	31/03/2018	Suzlon	S97

Technical details for S-97, 2100 KW Machine manufactured by Suzlon Energy Limited¹⁴

SR. NO.	PARTICULARS	DETAILS
1.	Rated power	2.1 MW
2.	Cut-in wind speed	4.0 m/s
3.	Rated wind speed	11 m/s
4.	Cut-out wind speed	20 m/s
5.	Rotor Speed	11.8 to 17.2 rpm
6.	Hub height	90.0 m
7.	Diameter	97.0 m
8.	Swept area	7386 m ²
9.	Gear box type	1 planetary stage, 2 helical stages
10.	Gear ratio	1:98.8

A.4. Project Owner(s)

Location/ Country	Project Owner(s)	Where applicable ¹⁵ , indicate if the host country has provided approval (Yes/No)
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¹⁴ http://www.suzlon.com/pdf/S97-Product_brochure_FV5.pdf

¹⁵ For example, Project Coordination Form is to be filled-in by Project Owners for projects located in Qatar. A written attestation from the host country's national focal point or the focal point's designee, as required by CORSIA (Refer section A.5 of the PSF guidelines).

India	Ventus Energy Consultants ¹⁶ .	No
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A.5. Declaration of intended use of Approved Carbon Credits (ACCs) generated by the Project Activity

ACCs from the project activity will be used to create additional revenue stream for the investment and for reducing the project financial risks and thus enabling the sustainability of the project. No double counting will be occurred in the scope of this project since GCC is the only programme applied.

The Project Activity is expected to generate ACCs for a full 10-year crediting period and supply the credits to offset the following GHG emissions:

Period		Name of the Entities	Purpose and Quantity of ACCs to be supplied
From	To		
29/03/2018	28/03/2028	Ventus Energy Consultants ¹⁷	For offsetting Greenhouse gasses 376,780 tCO _{2e} for 10-year period

The project owner confirms that the ACC's generated from the project will not be double counted in any other mechanism.

A.6. Additional requirements for CORSIA

Please see Section E and F.

Section B. Application of selected methodology(ies)

B.1. Reference to methodology(ies) and tools applied in the project

¹⁶ Authorized Focal point of the project activity and having the rights and powers for the transfer & trading of ACCs in the GCC and IHS registry. The legal owners of the project activity are different than that of the project owner and is described in section A.1.

¹⁷ Ventus Energy Consultants is the Project Owner and not the Legal Owner of the Project activity.

Title: ACM0002 Grid-connected electricity generation from renewable sources --- Version 20.0

Tools involved in the project are listed below:

1. Tool for the demonstration and assessment of additionality - Version 7.0.0¹⁸
2. Tool to calculate the emission factor for an electricity system - Version 7.0¹⁹
3. Common practice – Version 3.1²⁰
4. Investment analysis – Version 10.0²¹

B.2. Applicability of methodology(ies) and tools applied in the project

Scope 01- Energy Industries (Renewable/non-renewable sources)

The project activity is grid-connected wind power project. Version 20.0 of ACM0002 methodology is applicable to grid-connected renewable 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 wind based renewable energy source, zero emission power project connected to the different state grids, which forms part of the Indian electricity grid. The project activity will displace fossil fuel-based electricity generation that would have otherwise been provided by the operation and expansion of the fossil fuel-based power plants in Indian grid. The approved consolidated baseline and monitoring methodology ACM0002 Version 20.0 is the choice of the baseline and monitoring methodology and it is applicable because:

Comparison of project activity characteristics and eligibility criteria of version 20.0 of ACM0002

Para No.	Applicability Conditions as per ACM0002	Applicability to this Project Activity
1	The project activity may include renewable energy power plant/unit of one of the following types: <ul style="list-style-type: none"> • hydro power plant/unit with or without reservoir, 	The project activity is grid connected renewable power generation from wind energy.

¹⁸ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>

¹⁹ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v7.0.pdf>

²⁰ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-24-v1.pdf>

²¹ <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-27-v10.0.pdf>

	<ul style="list-style-type: none"> • Wind power plant/unit, • Geothermal power plant/unit, • Solar power plant/unit, • Wave power plant/unit or • Tidal power plant/unit. 	
2	<p>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.</p>	<p>This condition is not relevant, as the project activity does not involve capacity additions, retrofits or replacements.</p>
3	<p>In case of hydro power plants, one of the following conditions shall apply:</p> <ul style="list-style-type: none"> (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 and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m²; or (c) The project activity results in new single or multiple reservoirs and the power density of the project activity, as per definitions given in the Project Emissions section, 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, as per definitions given in the Project Emissions section, is lower than or equal to 4 W/m², all of the following conditions shall apply. 	<p>This condition is not relevant, as the project activity is not the installation of a hydro power plant.</p>

	<ul style="list-style-type: none"> (i) The power density calculated using the total installed capacity of the integrated project, as per definitions given in the Project Emissions section, 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 <ul style="list-style-type: none"> 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	<p>In the case of integrated hydro power projects, project proponent shall:</p> <ul style="list-style-type: none"> (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 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 of five years prior to the implementation of the CDM project activity. 	<p>This condition is not relevant, as the project activity is not the installation of a hydro power plant.</p>
5	<p>The methodology is not applicable to the following:</p>	<p>The project activity does not involve any of the given criteria hence methodology is applicable for the project activity.</p>

	<ul style="list-style-type: none"> • 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; • Biomass fired power plants; 	
6	<p>In the case of retrofits, 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, i.e., 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”.</p>	<p>The project activity is a new wind power plant. Also, no replacement, modification and retrofit measures are implemented here. Hence, this criterion is also not relevant to the project activity.</p>

This comparison shows clearly that ACM0002 is applicable to the project activity.

Applicability conditions of “Tool to calculate the emission factor for an electricity system”

<p>This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity that is where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).</p>	<p>This condition is applicable. OM, BM and CM are estimated using the tool under section B.6.1 for calculating baseline emissions.</p>
<p>Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, the conditions specified in “Appendix 2: Procedures related to off-grid power generation” should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity.</p>	<p>Since the project activity is grid connected, this condition is applicable and the emission factor has been calculated accordingly.</p>

In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	The project activity is located in India, a non-Annex I country. Therefore, this criterion is not applicable for the project activity.
Under this tool, the value applied to the CO ₂ emission factor of biofuels is zero.	The project activity is a grid connected wind power project and not a hydro power plant. Therefore, this criterion is not applicable for the project activity.

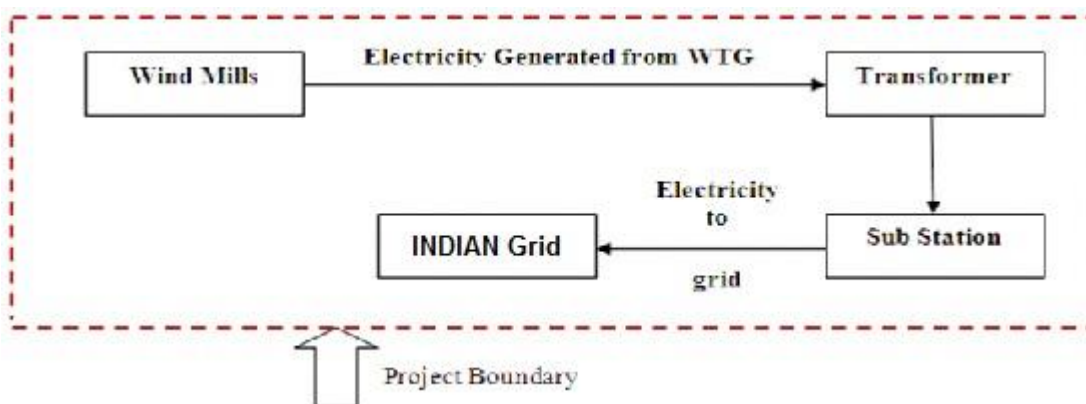
B.3. Project boundary, sources and greenhouse gases (GHGs)

The table below provides an overview of the emissions sources included or excluded from the project boundary for determination of baseline and project emissions.

	Source	GHG	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	Wind energy projects under the Project activity	CO ₂	No	As a zero-emission grid connected wind power project no emissions will result.
		CH ₄	No	As a zero-emission grid connected wind power project no emissions will result.
		N ₂ O	No	As a zero-emission grid connected wind power project no emissions will result.

The pictorial depiction of the project boundary is given below:



B.4. Establishment and description of the baseline scenario

As per the approved consolidated Methodology ACM0002 (Version 20.0) para 22 : “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, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system Version 7.0”.

The project activity involves setting up of solar projects to harness the solar energy to produce electricity and supply to the 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.

In the absence of the project activity, the equivalent amount of power would have been drawn from the Indian grid. Hence, the baseline for the project activity is the equivalent amount of power from the Indian grid.

The combined margin ($EF_{grid,CM,y}$) is the result of a weighted average of two emission factor pertaining to the electricity system: the operating margin (OM) and build margin (BM).

Calculations for this combined margin must be based on data from an official source (where available) and made publicly available. The CEA database version 18.0²² is the latest available data at the time of PSF submission to GCC verifier for project verification, hence same is considered for emission factor calculations.

The combined margin of the Indian grid used for the project activity is as follows:

Parameter	Value	Nomenclature	Source
$EF_{grid,CM,y}$	0.9310 tCO ₂ e/MW h	Combined margin CO ₂ emission factor for the project electricity system in year y	Calculated as the weighted average of the operating margin (0.75) & build margin (0.25) values, sourced from Baseline CO ₂ Emission Database, Version 18.0, Dec 2022 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,OM,y}$	0.9518 tCO ₂ e/MW h	Operating margin CO ₂ emission factor for the project electricity system in year y	Calculated as the last 3-year (2019-20, 2020-21, 2021-22) generation-weighted average, sourced from Baseline CO ₂ Emission Database, Version 18.0, Dec 2022 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,BM,y}$	0.8687 tCO ₂ e/MW h	Build margin CO ₂ emission factor for the project electricity system in year y	Baseline CO ₂ Emission Database, Version 18.0, Dec 2022 published by Central Electricity Authority (CEA), Government of India

During the implementation of the project activity, the relevant national and/or sectoral policies,

²² https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission_2021_22.pdf

regulations and circumstances are taken into account.

- Implementation of solar power projects for electricity generation is not mandatory under any law in India, the project activity is a voluntary action.
- Despite the gradual increase in renewable energy sources (including solar energy) in powersector, still about two-third of installed power generation capacity is based on fossil-fuel based energy sources, hence the electricity grid is fed by electricity generated predominantly in fossil-fuel based power plants.

Wind based power plants belong to white category as per Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India and are exempted from Environmental Impact Assessment (EIA).

B.5. Demonstration of additionality

The additionality of a GCC Project shall be demonstrated by applying the following approach, consisting of two components:

- (i) A Legal Requirement Test; and
- (ii) An Additionality Test either based on a Positive List test or a projects-specific additionality test.

The project is not enforced by law. Since voluntary commitments/agreements within a sector or by an entity do not constitute the legal requirement, the project is additional as per paragraph 46.

<p>Specify the methodology or activity requirement or product requirement that establish deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).</p>	<p>This project follows an approved large scale UNFCCC methodology which is ACM0002 “Consolidated baseline methodology for grid connected electricity generation from renewable sources”, Version 20.0. Selected methodology has been applied together with the “tool to calculate the emission factor for an electricity system, version 7.0” and “tool for assessment and demonstration of additionality, version 7.0.0”. These are the latest version of the methodology and related additionality & calculation tool.</p>
<p>Describe how the proposed project meets the criteria for deemed additionality.</p>	<ol style="list-style-type: none"> 1. Project without carbon revenue is not financially attractive as discussed in investment analysis section below (benchmark and sensitivity analysis). 2. Continuation of the current situation supply of equal amount of electricity by the newly built grid connected power plants. Continuation of the current situation is not considered as a realistic alternative due to increasing electricity demand therefore new power plants should be constructed which includes mainly thermal power plants. Implementation of the project is additional to the

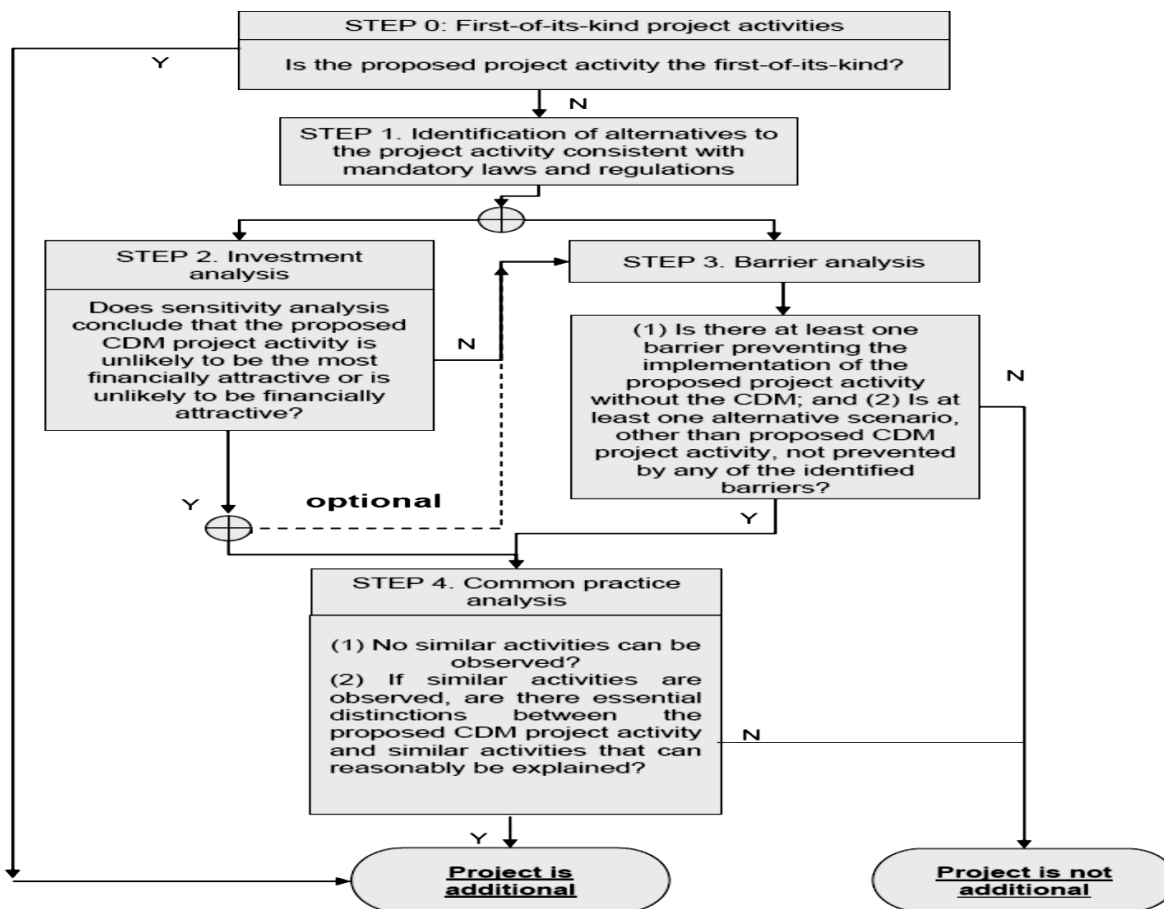
	<p>baseline scenario which is an alternative 2 above and therefore reduces the emissions.</p> <p>3. The project activity comes under white category as per local regulation, thus there shall be no necessity of obtaining the Consent to Operate” for White category of industries. Since project activity falls under white category and the non-polluting nature of project fulfils the compliance to the local laws and regulations</p> <p>The Project activity conforms to all the applicable laws and regulations in India:</p> <ul style="list-style-type: none"> ✓ Power generation using renewable energy is not a legal requirement or a mandatory option. ✓ There are state and sectoral policies, framed primarily to encourage wind power projects. ✓ These policies have also been drafted realizing the extent of risks involved in the projects and to attract private investments. ✓ The Indian Electricity Act, 2003 (May 2007 Amendment) does not influence the choice of fuel used for power generation. ✓ There is no legal requirement on the choice of a particular technology for power generation. <p>The both alternatives are in compliance with laws and regulations required. There is no any mandatory requirement to implement the project activity.</p> <p>4. In accordance with common practice analysis there is no plants similar to the proposed project and built without carbon revenue, the proposed type of project should not be considered as a common practice.</p>
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Additionality Assessment for large scale project activity Instances

The table below is only applicable if the proposed project activity is a type of project activity which is deemed automatically additional, as defined by the applied approved methodology or standardized baseline.

Specify the methodology or standardized baseline that establish automatic additionality for the proposed project activity (including the version number and the specific paragraph, if applicable).	NA
Describe how the proposed project activity meets the criteria for automatic additionality in the relevant methodology or standardized baselines.	NA

The present project generates power using wind energy which is a renewable, zero emission source of energy. Baseline considerations for the project are based on approved consolidated baseline methodology ACM0002 (Version 20.0). The methodology requires the project investor to determine the additionality based on “Methodological Tool- Tool for the demonstration and assessment of additionality”, Version 7.0.0. The step-wise approach to establish additionality of the project activity has been followed, details of which are provided in the following paragraphs:



The additionality of the Project activity is ascertained in line with the applicable guidance from the UNFCCC. The demonstration of additionality for the proposed Project activity is being carried out in accordance with the additionality tool provided by the UNFCCC i.e., “Tool for demonstration and assessment of Additionality” Version 7.0.0. The tool provides a step-wise approach to demonstrate additionality which is displayed below:

Step 0: Demonstration whether the proposed project activity is the first-of-its-kind

The proposed project activity is not the first-of-its-kind. Hence not applicable.

Step 1: Identification of alternatives to the project activity consistent with current laws and regulations

Sub-step 1a: Define alternatives to the project activity:

Identify realistic and credible alternative(s) available to the GCC project owner or similar project developers that provide outputs or services comparable with the proposed project activity.

The purpose of the project activity is to generate electrical power using wind energy and feed the electricity generated to the grid. Hence, the following alternatives are considered:

Alternative 1: The proposed project activity not undertaken as a GCC project activity.

The PP could proceed with the implementation of the project without Carbon credit benefits. The electricity produced from the renewable energy project would have been sold to the grid. This is in compliance with all applicable legal and regulatory requirements and can be a part of the baseline. However, the Project activity is not feasible without revenues from sale of Carbon Credits. This argument has been discussed in step 2 of the Additionality section.

Alternative 2: No proposed project activity and equivalent amount of energy would have been produced by the grid electricity system through its currently running power plants and by new capacity addition to the grid i.e. Continuation of the present situation.

The PP would have continued without investment in Project activity with usual business activities. The grid would continue with the fossil fuel-based power projects and this would result in GHG emissions. Hence, the new capacity add-on from a fossil fuel-based power plant is appropriate, realistic & credible baseline alternative for the project activity.

Outcome of Sub-step 1a: All the realistic alternatives for the project activity have been enlisted above.

Thus, though two alternatives are mentioned above as per step of additionality tool, the first alternative is not possible as project activity is not viable without carbon credit benefits and second alternative is the baseline scenario for the project activity as per methodology as mentioned in section B.4 of PSF.

It is to be noted that being the green field project activity, “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, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system Version 7.0”.

Sub-step 1b: Consistency with mandatory laws and regulations:

The alternative(s) shall be in compliance with all applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution. The project activity comes under white category as per local regulation, thus there shall be no necessity of obtaining the Consent to Operate” for White category of industries. Since project activity falls under white category and the non-polluting nature of project fulfils the compliance to the local laws and regulations (This sub-step does not consider national and local policies that do not

have legally-binding status.).

The relevant national laws and regulations pertaining to generation of energy in India are:

- Electricity Act 2003
- National Electricity Policy 2005
- Tariff Policy 2006
- The factories act 1948

The Project activity conforms to all the applicable laws and regulations in India:

- Power generation using renewable energy is not a legal requirement or a mandatory option.
- There are state and sectoral policies, framed primarily to encourage wind power projects.
- These policies have also been drafted realizing the extent of risks involved in the projects and to attract private investments.
- The Indian Electricity Act, 2003 (May 2007 Amendment) does not influence the choice of fuel used for power generation.
- There is no legal requirement on the choice of a particular technology for power generation.

The both alternatives are in compliance with laws and regulations required. There is no any mandatory requirement to implement the project activity.

Outcome of Sub-step 1b: Hence, both the alternatives enlisted above are found to comply with the mandatory laws and regulations taking into account the enforcement of the legislations in the region or country and EB decisions on national and/or sectoral policies and regulations. Since wind projects are categorized as white category, no any consent to operate required from pollution control board.

However, Alternative 2 has been selected as the appropriate baseline alternative for this project activity in line with methodology.

Step 2: Investment analysis

Determine whether the proposed project activity is economically or financially less attractive than at least one other alternative, identified in step 1, without the revenue from the sale of emission reductions credits. To conduct the investment analysis, use the following sub-steps:

Sub-step 2a: Determine appropriate analysis method

The Project activity envisages to export the power to Indian grid and the revenues from the sale would be generated in accordance with the terms and tariffs established in the Power Purchase Agreement (PPA). Thus, simple cost analysis (Option I) cannot be used as the analysis method as the sale of the units of generated electricity shall result in a revenue stream during the operations of the Project activity.

In the absence of the project activity grid electricity would have been the obvious choice for the Project which requires no investment. Hence investment comparison analysis (Option II) is also not appropriate for the project activity.

After eliminating Option, I and Option II, the use of Benchmark analysis (Option III) is the method of analysis that has been selected as the most suitable method. This method determines the attractiveness of the project activity for the investors, as well as provides a measure of the viability of

the investment to generate revenues during its operation, as compared with other avenues and investment options. Hence, the Benchmark analysis method is to be employed for analysis of the said project.

Sub-step 2b (Option III): Apply benchmark analysis

The investment analysis using Benchmark analysis approach (Option III) has been chosen. Further, this method illustrates the evaluation of the Project by the PP before the decision to undertake the project was taken and management approval granted.

Choice of Financial Indicator:

According to the “Tool for demonstration and assessment of Additionality Version 7.0.0”, the financial indicator can be based either on (1) project IRR or (2) equity IRR. There is no general preference between the approaches (1) or (2). The benchmark chosen for analysis shall be fully consistent with the choice of approach. Therefore, in accordance with the guidance, the relevant financial indicator for project activity has been chosen as post tax equity IRR.

Default Value Benchmark:

As per para 17 of EB 116, Annex 02 of Investment analysis tool Version 12, the cost of equity is determined by selecting the values provided in the Appendix, i.e., Default values for cost of equity (expected return on equity) is presented below:

Appendix in EB 116, Annex 02 specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India = **9.77%**

The Required return on equity (benchmark) was computed in the following manner:

$$\text{Nominal Benchmark}^{23} = \{(1+\text{Real Benchmark}) * (1+\text{Inflation rate})\}-1$$

Where:

- Default value for Real Benchmark = 9.77% (as per Appendix of EB 116, Annex 02)
- Inflation Rate forecast for by Reserve Bank of India (RBI) (i.e., Central Bank of India) for India.

Benchmark estimation:

Appendix in EB 116, Annex 02 specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India = **9.77%**

- Inflation Rate forecast for by Reserve Bank of India (RBI) (i.e., Central Bank of India) for India

Benchmark Calculations	Value	Sources Link	Document Date
Default Value for India as per UNFCCC guidelines	9.77%	EB 116 annex 02	02/11/2022

²³ As per Fisher Equation, https://en.wikipedia.org/wiki/Fisher_equation

Inflation forecast (WPI Mean) as per RBI for 10yrs	4.40%	https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=18046	06/12/2017
Benchmark (with 10yrs Forecast)	14.60%	Calculated	
Benchmark	14.60%	Calculated	

Decision date: 19/12/2017

Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III):

The Post tax Equity IRR is evaluated for the entire lifetime of the project activity, i.e., 25 years. It is calculated based on the cash outflows from and cash inflows into the project activity.

Key Assumptions supporting financial projections are provided in excel spreadsheet to the GCC Verifier. Based on result of IRR excel spreadsheets, equity IRR is less than Benchmark. The input assumption and the IRR outcome can be referred in below:

Sl. No	Organization Name	Capacity (MW)	Location	Decision date
1	M/s Ventus Energy Consultants	21	Vellapaneri, Tamilnadu	19/12/2017

This substantiates that the investment is not financially attractive (Equity IRR for the project activity is less than the Benchmark). Thus, it can be easily concluded that project activity is additional & is not business as usual scenario.

Details of the project		Source	Link
State where the project is situated	Tamilnadu	As per DPR	
Total Capacity (MW)	21.00	As per DPR	
Expected Date of Commissioning	29-Mar-18	As per commissioning certificate	
Life of the plant (Yrs.)	25	As per DPR & CERC Tariff Order dated 31/03/2015	http://www.cercind.gov.in/2015/orders/SO4.pdf

Generation of electricity			
PLF (%)	22.00%	As per DPR & CERC Tariff Order dated 31/03/2015	http://www.cercind.gov.in/2015/orders/SO4.pdf
Annual generation (kWh)	4,04,71,200	Calculated Value	
Annual Degradation per year	0.00%		-
Tariff rate at the decision making (INR/kWh)	4.75	As per PPA	-
Escalation in tariff rate	0.0%		-
Transmission & Wheeling Losses (%)	0.00%		-
Operation and maintenance cost and Insurance			
O & M Expenses (INR Mn.)	20.70	As per O&M	-
O & M free for (Yr.)	2.00	As per O&M	
Escalation in the operational expenses (%)	5.72%	As per DPR & CERC Tariff Order dated 31/03/2015	http://www.cercind.gov.in/2015/orders/SO4.pdf
Insurance (INR Mn.)			-
Financial parameters			
TOTAL COST (INR Mn.)	1,294.00	As Per Purchase Order	
Loan Amount (INR Mn.)	970.50	As Per Purchase Order	
Equity Investment (INR Mn.)	323.50	As Per Purchase Order	
Term loan			

Loan Amount (INR Mn.)	970.50	As Per Purchase Order	-
Interest rate (%)	13.00%	As Per CERC Tariff Order dated 31/03/2015	http://www.cercind.gov.in/2015/orders/SO4.pdf
Loan Tenure (Qtr.)	48	Assumption	-
Moratorium Period (Qtr.)	-	Assumption	
Repayment Period (Qtr.)	48	Calculated Value	-
Repayment instalments value (INR Mn.)	20.219	Calculated Value	-
1st instalment from (Qtr. end)	30-Jun-18	Considered from the next Quarter End	-
Book Depreciation (SLM Method)			
Land			
Gross Depreciable Value (INR Mn.)	1,294.00	Calculated Value	
Salvage Value (%)	10.00%	CERC order	http://cercind.gov.in/2015/orders/so4.pdf
Salvage value (INR Mn.)	129.40	Calculated Value	
Net Depreciable Value (INR Mn.)	1,164.60	Calculated Value	
Residual Value (INR Mn.)	129.40	Calculated Value	-
IT Depreciation			
IT Depreciation (%)	7.69%	IT act	https://www.incometaxindia.gov.in/charts%20%20tables/depreciation%20rates.htm
Income Tax			

Financial Year	FY 2017-18		
Income Tax (%)	30.00%	As Per Income Tax Rule, Pg 29, Para E(l)	https://www.hostbooks.com/in/income-tax-slabs-rate-2020-2021/
Corporate Tax (%)	30.00%	As Per IT rule	https://www.coverfox.com/personal-finance/tax/corporate-tax/
GST (%)	18.00%	As Per Income Tax Rule	http://taxguru.in/service-tax/service-tax-rate-chart-effect-01062016.html
Surcharge (%)	5.00%	As Per Income Tax Rule	https://www.hostbooks.com/in/income-tax-slabs-rate-2020-2021/
Education cess (%)	4.00%	As Per Income Tax Rule, Pg 5, 11 and 12	https://www.hostbooks.com/in/income-tax-slabs-rate-2020-2021/
Final Tax rates			
Income Tax (%)	32.76%	Calculated Value	
Corporate Tax (%)	32.76%	Calculated Value	
Service Tax (%)	18.72%	Calculated Value	

Sub-step 2d: Sensitivity Analysis

Addressing Guidance 28 & 29 of EB 92, Annex 5, following factors has been subjected to sensitivity analysis:

1. PLF
2. O&M Cost
3. Project Cost
4. Tariff

The rationale of sensitivity is, "The ultimate objective of the sensitivity analysis is to determine the likelihood of the occurrence of a scenario other than the scenario presented, in order to provide a cross-check on the suitability of the assumptions used in the development of the investment analysis."

The results of sensitivity analysis show that even with a variation of +10% & -10% in project cost, O&M cost, PLF and Tariff Rate Equity IRR is significantly lower than the benchmark. And it is evident from the results given above; the project remains additional even under the most favorable conditions.

Probability to breach the benchmark:				
Sensitivity Parameter 1: PLF				
PLF considered in financials for is as per Third Party DPR which is in line with “Guidelines for the reporting and validation of Plant load factors” stated in EB 48 Annex11 option 3(b).				
Hence, variation in PLF of more than 10% is unlikely to happen, as the PLF has been reported as per the Third-Party Report based on long term data.				
Sensitivity Parameter 2: O&M				
The sensitivity analysis reveals that O&M will breach the benchmark at negative values and is hypothetical case. Since the O&M cost is subject to escalation (as evidence by the O&M agreement) and also subject to inflationary pressure, any reduction in the O&M costs is highly unlikely. Hence, the reduction in the O&M cost is highly unlikely.				
Sensitivity Parameter 3: Project Cost				
Project Cost for financial analysis is considered from DPR of the project activity, being available at the time of investment making decision to go ahead with the project activity. The actual project cost is lower than the DPR cost. Since the Purchase Order cost is firm, there is no possibility of project cost going below this level. However, Sensitivity is carried out for threshold level below which benchmark is not breached.				
Sensitivity Parameter 4: Tariff Rate				
The tariff is determined by PPA which is fixed for entire lifetime of the project activity. Hence, there is no probability to get variation for the same. However, Sensitivity is carried out for +/-10% even then the benchmark is not breached.				

Sensitivity Analysis	Equity IRR				
	Variation %	-10%	Normal	10%	Breaching Value
PLF		3.27%	9.09%	7.43%	43.49%
O&M		5.90%	9.09%	4.91%	-237.29%
Project Cost		7.15%	9.09%	3.95%	-34.72%
Tariff Rate		3.27%	9.09%	7.43%	43.49%

Outcome of Step 2:

This substantiates that the investment is not financially attractive (Equity IRR for the project activity is less than the Benchmark Equity IRR) for any of the investor. Thus, it can be easily concluded that project activity is additional & is not business as usual scenario.

Equity IRR without CDM	Benchmark (Equity IRR)
9.09%	14.60%

Step 3: Barrier analysis

Barrier analysis has not been used.

Step 4: Common practice analysis

For the concerned project activity, Common Practice Analysis has been carried out.

The project activity involves generation of electricity from wind energy. The project activity is located in Tamilnadu in India and the policy applicable for the wind power projects is regulated by State Electricity regulation Commission (SERC) of the respective state. The boundary of Tamilnadu is considered for Common practice analysis.

Stepwise approach for common practice analysis has been carried out as per Methodological tool "Common Practice", version 3.1 EB 84, Annex 7:

Step (1): Calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.

Range	Capacity	Unit
+50%	31.5	MW
Capacity of the proposed project activity	21.0	MW
-50%	10.5	MW

Step (2): Identify similar projects (both CDM and non-CDM) which fulfil all of the following conditions:

- The projects are located in the applicable geographical area;
- The projects apply the same measure as the proposed project activity;
- The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;
- The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g., clinker) as the proposed project plant;
- The capacity or output of the projects is within the applicable capacity or output range calculated in
- The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.

Identification of the similar projects (CDM and non-CDM) is carried out as per sub-steps of Step (2) as follows:

- As the projects are located in Tamilnadu, therefore, projects in the geographical area of Tamilnadu have been chosen for analysis. The project activity involves generation of electricity from wind energy. The project activity is located in Tamilnadu in India and the policy applicable for the wind projects is regulated by respective state policy. The policies/tariff for each state is regulated by State Electricity Regulatory Commissions of respective states and they differ for respective states. The project implemented in different states are claimed as different since the policies and regulations differ in each state. Each state has different policies regarding renewable energy, hence Tamilnadu is considered as geographical region for common practise analysis.

- The project activity is a green-field wind power project and uses measure (b) “Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies”. Therefore, projects applying same measure (b) are candidates for similar projects.
- The energy source used by the project activity is wind. Hence, only wind energy projects have been considered for analysis.
- The project activity produces electricity; therefore, all power plants that produce electricity are candidates for similar projects.
- The capacity range of the projects is within the applicable capacity range from 10.5 MW to 31.5 MW.
- The start date of the concerned project activity is 29/03/2018. Therefore projects, which have started commercial operation before 29/03/2018 have been considered for analysis.

Numbers of Similar projects identified, which fulfil above-mentioned conditioned are

$$N_{\text{wind}} = 2^{24}$$

The projects found within the capacity range are given below:

S.No.	Project Name	Capacity	Date of Commissioning
1	ABAN OFFSHORE LTD.,	10.66	30-Sep-95
2	GAMMA GREEN POWER (P) LTD.,	10.66	8-Mar-95

Step (3): Within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number, N_{all} .

CDM project activities, which have got registered or are under validation have been excluded in this step. The list of the power plants identified is provided to the DOE Verifier. After excluding the registered and under validation projects the total number of projects.

$$N_{\text{all}} = 2$$

Step (4): Within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number N_{diff} .

As per the tool on Common Practice, the project activities have been separated from the different technologies on the basis two criteria:

1. Size of Installation – Since project activity is large scale project, small and micro scale projects are considered as different technology project. Based on this criteria, there are no any different technology project out of similar identified projects.
2. Investment climate on the date of the investment decision – The wind projects developed under different phases and different batches of National Wind Mission (NSM) can considered as different technology projects. For proposed project activity, there are no any different technology project considered out of similar identified projects.

Hence, projects where either of the conditions is satisfied those projects are counted for calculating N_{diff} projects.

²⁴ <https://cea.nic.in/wp-content/uploads/2020/04/Plant-wise-details-of-RE-Installed-Capacity-merged.pdf>

N_{diff} = 0

Step (5): Calculate factor $F = 1 - N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

Calculate $F = 1 - N_{diff}/N_{all}$
 $F = 1 - (0/2) = 1$

As per methodological tool “common practise” version 03.1, the proposed project activity is a “common practice” within a sector in the applicable geographical area if the factor F is greater than 0.2 and $N_{all} - N_{diff}$ is greater than 3.

Thus, if both conditions are fulfilled, then project activity will be a common practise. Otherwise, the project activity is treated as not a common practise.

Outcome of Common Practise analysis:

As,

i. $F = 1$; which is greater than 0.2

ii. $N_{all} - N_{diff} = 2 - 0 = 2$; which is not greater than 3

The project activity does not satisfy second condition. Hence, project activity is not a common practice.

Thus, the proposed project activity is not a “common practice” within a sector in the applicable geographical area.

B.6. Estimation of emission reductions

As per the para 57 of ACM0002, version 20.0, the formula to calculate the emission reduction is $ER_y = BE_y - PE_y$

As the project activity is a wind project, there is no any leakage emissions from the project activity.

Hence, $LE_y = 0$

Therefore, Emission Reductions for this project activity are calculated as follows:

$ER_y = BE_y - PE_y$

Where:

ER_y	=	Emission reductions in year y (t CO ₂ e/yr)
BE_y	=	Baseline emissions in year y (t CO ₂ /yr)
PE_y	=	Project emissions in year y (t CO ₂ e/yr)

Therefore, Net GHG Emission Reductions and Removals are calculated as follows:

$$ER_y = BE_y - PE_y$$

B.6.1. Explanation of methodological choices

As per the approved consolidated Methodology ACM0002, version 20.0:

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired 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:

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

Where:

BE_y = Baseline emissions in year y (t CO₂e/yr)

EG_{BL,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,CM,y} = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system Version 7.0” (t CO₂/MWh)

As per methodology, combined grid emission factor as per the “Tool to calculate the emission factor for an electricity system” version 7.0 is calculated as below.

CO₂ Baseline Database for the Indian Power Sector, Version 18, December 2022²⁵ published by Central Electricity Authority (CEA), Government of India has been used for the calculation of emission reduction.

As per Methodological tool: Tool to calculate the emission factor for an electricity system (Version 7.0, EB 100, Annex 4), following six steps have been followed:

- Step 1:** Identify the relevant electricity systems;
- Step 2:** Choose whether to include off-grid power plants in the project electricity system (optional);
- Step 3:** Select a method to determine the operating margin (OM);
- Step 4:** Calculate the operating margin emission factor according to the selected method;
- Step 5:** Calculate the build margin (BM) emission factor;
- Step 6:** Calculate the combined margin (CM) emission factor.

Step 1: Identify the relevant electricity systems

As described in tool “For determining the electricity emission factors, identify the relevant project

²⁵ https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission_2021_22.pdf

electricity system. Similarly, identify any connected electricity systems”. It also states that “If the DNA of the host country has published a delineation of the project electricity system and connected electricity systems, these delineations should be used”. Keeping this into consideration, the Central Electricity Authority (CEA), Government of India have Indian grid.

However, since August 2006, however, all regional grids except the Southern Grid had been integrated and were operating in synchronous mode, i.e., at same frequency. Consequently, the Northern, Eastern, Western and North-Eastern grids were treated as a single grid named as NEWNE grid from FY 2007-08 onwards for the purpose of this CO₂ Baseline Database. As of 31 December 2013, the Southern grid has also been synchronized with the NEWNE grid, hence forming one unified Indian Grid. Since the project supplies electricity to the Indian grid, emissions generated due to the electricity generated by the Indian grid as per CM calculations will serve as the baseline for this project.

Table: Grid Classification

INDIAN GRID				
Northern	Eastern	Western	North-Eastern	Southern
Chandigarh	Bihar	Chhattisgarh	Arunachal Pradesh	Andhra Pradesh
Delhi	Jharkhand	Gujarat	Assam	Karnataka
Haryana	Orissa	Daman & Diu	Manipur	Kerala
Himachal Pradesh	West Bengal	Dadar & Nagar Haveli	Meghalaya	Tamil Nadu
Jammu & Kashmir	Sikkim	Madhya Pradesh	Mizoram	Puducherry
Punjab	Andaman-Nicobar*	Maharashtra	Nagaland	Lakshadweep*
Rajasthan		Goa	Tripura	Telengana
Uttar Pradesh				
Uttarakhand				

Step 2: Choose whether to include off-grid power plants in the project electricity system (optional)

GCC project owner may choose between the following two options to calculate the operating margin and build margin emission factor:

Option I: Only grid power plants are included in the calculation.

Option II: Both grid power plants and off-grid power plants are included in the calculation.

GCC project owner has chosen only grid power plants in the calculation.

Step 3: Select a method to determine the operating margin (OM)

The calculation of the operating margin emission factor ($EF_{\text{grid,OM,y}}$) is based on one of the following methods, which are described under Step 4:

- (a) Simple OM; or
- (b) Simple adjusted OM; or
- (c) Dispatch data analysis OM; or
- (d) Average OM.

The data required to calculate Simple adjusted OM and Dispatch data analysis OM is not possible due to lack of availability of data to project developers. The choice of other two options for calculating operating margin emission factor depends on generation of electricity from low-cost/ must-run sources. In the context of the methodology low cost/must run resources typically include hydro, geothermal, wind, low-cost biomass, nuclear and solar generation.

Share of Must-Run (Hydro/Nuclear) (% of Net Generation)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
India	14.6%	14.3%	14.5%	17.0%	16.5%	15.8%

Data Source: Central Electricity Authority (CEA) database Version 18, December 2022²⁶

The above data clearly shows that the percentage of total grid generation by low-cost/ must-run plants (on the basis of average of five most recent years) for the Indian grid is less than 50 % of the total generation. Thus, the Average OM method cannot be applied, as low cost/must run resources constitute less than 50% of total grid generation.

The simple OM emission factor is calculated as the generation-weighted average CO₂ emissions per unit net electricity generation (tCO₂/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants/units.

For the simple OM, the simple adjusted OM and the average OM, the emissions factor can be calculated using either of the two following data vintages:

(a) **Ex-ante option:** if the ex-ante option is chosen, the emission factor is determined once at the validation stage, thus no monitoring and recalculation of the emissions factor during the crediting period is required.

OR

(b) **Ex-post option:** if the ex-post option is chosen, the emission factor is determined for the year in which the project activity displaces grid electricity, requiring the emissions factor to be updated annually during monitoring.

Project owner has chosen ex-ante option for calculation of Simple OM emission factor using a 3-year generation-weighted average, based on the most recent data available at the time of submission of the PD to the GCC Verifier for validation.

OM determined at validation stage will be the same throughout the crediting period. There will be no

²⁶ https://cea.nic.in/wp-content/uploads/baseline/2023/01/Approved_report_emission_2021_22.pdf

requirement to monitor & recalculate the emission factor during the crediting period.

Step 4: Calculate the operating margin emission factor ($EF_{grid,OMSimple,y}$) according to the selected method

The operating margin emission factor has been calculated using a 3-year data vintage:

Net Generation in Operating Margin (MWh) (incl. Imports)			
	2019-20	2020-21	2021-22
Indian Grid	965,009	958,218	1,035,672

Simple Operating Margin (tCO₂e/MWh) (incl. Imports)			
	2019-20	2020-21	2021-22
Indian Grid	0.9541	0.9402	0.9605

Weighted Generation Operating Margin	
Indian Grid	0.9518

Step 5: Calculate the build margin (BM) emission factor ($EF_{grid,BM,y}$)

As per Methodological tool: "Tool to calculate the emission factor for an electricity system" (Version 7.0, EB 100, Annex 4) para 72:

In terms of vintage of data, GCC project owner can choose between one of the following two options:

(a) **Option 1** - for the first crediting period, calculate the build margin emission factor ex ante based on the most recent information available on units already built for sample group m at the time of PD submission to the GCC Verifier for validation. For the second crediting period, the build margin emission factor should be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the GCC Verifier. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used. This option does not require monitoring the emission factor during the crediting period.

(b) **Option 2** - For the first crediting period, the build margin emission factor shall be updated annually, ex post, including those units built up to the year of registration of the project activity or, if information up to the year of registration is not yet available, including those units built up to the latest year for which information is available. For the second crediting period, the build margin emissions factor shall be calculated ex ante, as described in Option 1 above. For the third crediting period, the build margin emission factor calculated for the second crediting period should be used.

Option 1 as described above is chosen by project owner to calculate the build margin emission factor for the project activity. BM is calculated ex-ante based on the most recent information available at the time of submission of PD and is fixed for the entire crediting period.

Build Margin (tCO₂/MWh) (not adjusted for imports)	
	2021-22

INDIAN Grid	0.8687
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Step 6: Calculate the combined margin (CM) emission factor ($EF_{grid,CM,y}$)

As per Methodological tool: “Tool to calculate the emission factor for an electricity system” (Version 7.0, EB 100, Annex 4) para 81:

The calculation of the combined margin (CM) emission factor ($EF_{grid,CM,y}$) is based on one of the following methods:

- (a) Weighted average CM; or
- (b) Simplified CM.

Project owner has chosen option (a) i.e., weighted average CM to calculate the combined margin emission factor for the project activity.

The combined margin emissions factor is calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$$

Where:

- $EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (t CO₂/MWh)
- $EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (t CO₂/MWh)
- W_{OM} = Weighting of operating margin emissions factor (per cent)
- W_{BM} = Weighting of build margin emissions factor (per cent)

The following default values should be used for W_{OM} and W_{BM} :

For solar project activities: $W_{OM} = 0.75$ and $W_{BM} = 0.25$ (owing to their intermittent and non-dispatchable nature) for the second crediting period and for subsequent crediting periods. Since project activity is of power generation by using solar energy, the above weightage has been considered for OM and BM.

$$\begin{aligned} \text{Therefore, } EF_{grid,CM,y} &= 0.9518 * 0.75 + 0.8687 * 0.25 \\ &= 0.9310 \text{ tCO}_2/\text{MWh} \end{aligned}$$

Baseline emission factor (EF_y):

The baseline emission factor is calculated using the combined margin approach as described in Step 6 above:

$$\text{Therefore, } EF_y = EF_{grid,CM,y} = 0.9310 \text{ tCO}_2/\text{MWh}$$

B.6.2. Data and parameters fixed ex ante

Data / Parameter Table 1.

Data / Parameter:	EF_{grid, OM, y}										
Methodology reference	ACM0002 (version 20.0)										
Data unit	tCO ₂ e/MWh										
Description	Operating Margin CO ₂ emission factor in year y										
Measured/calculated/default	Calculated as the last 3-year (2019-20, 2020-21, 2021-22) generation-weighted average, sourced from Baseline CO ₂ Emission Database, Version 18.0, December 2022 published by Central Electricity Authority (CEA), Government of India.										
Data source	CO ₂ Emission Database, Version 18.0, December-2022 published by Central Electricity Authority (CEA), Government of India.										
Value(s) of monitored parameter	0.9518										
Measurement/ Monitoring equipment (if applicable)	<table border="1"> <tr> <td colspan="2">Not Applicable</td> </tr> <tr> <td>Type of meter</td> <td></td> </tr> <tr> <td>Location of meter</td> <td></td> </tr> <tr> <td>Accuracy of meter</td> <td></td> </tr> <tr> <td>Serial number of meter</td> <td></td> </tr> </table>	Not Applicable		Type of meter		Location of meter		Accuracy of meter		Serial number of meter	
Not Applicable											
Type of meter											
Location of meter											
Accuracy of meter											
Serial number of meter											
Calculation method (if applicable)	Not Applicable										
QA/QC procedures	This parameter is fixed ex-ante for the entire crediting period.										
Purpose of data	For the calculation of the Baseline Emission.										
Additional comments	-										

Data / Parameter:	EF_{grid, BM, y}
Methodology reference	ACM0002 (version 20.0)
Data unit	tCO ₂ e/MWh
Description	Build Margin CO ₂ emission factor in year y
Measured/calculated/default	Sourced from Baseline CO ₂ Emission Database, Version 18.0, December-2022 published by Central Electricity Authority (CEA), Government of India.
Data source	CO ₂ Emission Database, Version 18.0, December-2022 published by Central Electricity Authority (CEA), Government of India.
Value(s) of monitored parameter	0.8687

Measurement/ Monitoring equipment (if applicable)	Not Applicable
	Type of meter
	Location of meter
	Accuracy of meter
	Serial number of meter
Calculation method (if applicable)	Not Applicable
QA/QC procedures	This parameter is fixed ex-ante for the entire crediting period.
Purpose of data	For the calculation of the Baseline Emission.
Additional comments	-

Data / Parameter:	EF_{grid, CM, y}
Methodology reference	ACM0002 (version 20.0)
Data unit	tCO ₂ e/MWh
Description	Combined Margin CO ₂ emission factor in year y
Measured/calculated /default	Calculated as the the weighted average of the operating margin (0.75) & build margin (0.25) values, sourced from Baseline CO ₂ Emission Database, Version 18.0, December-2022 published by Central Electricity Authority (CEA), Government of India.
Data source	CO ₂ Emission Database, Version 18.0, December-2022 published by Central Electricity Authority (CEA), Government of India.
Value(s) of monitored parameter	0.9310
Measurement/ Monitoring equipment (if applicable)	Not Applicable
	Type of meter
	Location of meter
	Accuracy of meter
	Serial number of meter
Calculation method (if applicable)	<p>The combined margin emissions factor is calculated as follows:</p> $EF_{grid,CM,y} = EF_{grid,OM,y} * W_{OM} + EF_{grid,BM,y} * W_{BM}$ <p>Where:</p> <p>EF_{grid,BM,y} = Build margin CO₂ emission factor in year y (tCO₂/MWh)</p> <p>EF_{grid,OM,y} = Operating margin CO₂ emission factor in year y (tCO₂/MWh)</p> <p>W_{OM} = Weighting of operating margin emissions factor (%) = 75%</p> <p>W_{BM} = Weighting of build margin emissions factor (%) = 25%</p>
QA/QC procedures	This parameter is fixed ex-ante for the entire crediting period.
Purpose of data	For the calculation of the Baseline Emission.

Additional comments	-
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B.6.3. Ex-ante calculation of emission reductions

Ex-ante calculation of emission reductions is equal to ex-ante calculation of baseline emissions as project emissions and leakage are nil.

Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER_y = Emission reductions in year y (t CO₂e/yr)

BE_y = Baseline emissions in year y (t CO₂e/yr)

PE_y = Project emissions in year y (t CO₂/yr)

Project emissions = 0

Leakage = 0

The baseline emissions are calculated as follows:

$$BE_y = EG_{P,J,y} * EF_{grid,CM,y}$$

Whereas,

BE_y = Baseline emissions in year y (t CO₂/yr)

$EG_{P,J,y}$ = 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)

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y

$$BE_y = EG_{P,J,y} * EF_{grid,CM,y}$$

$$BE_y = 40,471 \text{ MWh} * 0.9310 \text{ tCO}_2\text{e/MWh}$$

$$BE_y = 37,678 \text{ tCO}_2\text{e}$$

$$PE_y = 0 \text{ tCO}_2\text{e}$$

$$\text{Hence } ER_y = 37,678 \text{ tCO}_2\text{e}$$

B.6.4. Summary of ex ante estimates of emission reductions

Year	Baseline emissions (t CO ₂ e)	Project emissions (t CO ₂ e)	Leakage (t CO ₂ e)	Emission reductions (t CO ₂ e)
Year 1	37,678	0	0	37,678
Year 2	37,678	0	0	37,678
Year 3	37,678	0	0	37,678
Year 4	37,678	0	0	37,678
Year 5	37,678	0	0	37,678
Year 6	37,678	0	0	37,678
Year 7	37,678	0	0	37,678
Year 8	37,678	0	0	37,678
Year 9	37,678	0	0	37,678
Year 10	37,678	0	0	37,678
Total	376,780	0	0	376,780
Total number of crediting years	10			
Annual average over the crediting period	37,678	0	0	37,678

B.7. Monitoring plan

The monitoring plan is developed in accordance with the modalities and procedures for GCC project activities and is proposed for grid-connected wind power project being implemented. The monitoring plan, which will be implemented by the GCC Project Owner describes about the monitoring organisation, parameters to be monitored, monitoring practices, quality assurance, quality control procedures, data storage and archiving. The details of the monitoring plan are provided in section B.7.4.

B.7.1. Data and parameters to be monitored ex-post

Data / Parameter Table 2.

Data / Parameter:	EG _{PJ,y} (SDG 7, Indicator: 7.2.1)
Methodology reference	ACM0002 (version 20.0)
Data unit	MWh/y
Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh
Measured/calculated/default	Measured
Data source	TNEB report on energy delivered at grid (Credit Note/Report)
Value(s) of monitored	40,471

parameter applied with basis																	
Measurement/ Monitoring equipment	<table border="1"> <tr> <td>Type of meter(s)</td> <td>Energy meter</td> </tr> <tr> <td>Location of meter(s)</td> <td>Substation</td> </tr> <tr> <td>Accuracy of meter(s)</td> <td>0.2s</td> </tr> <tr> <td>Serial number of meter(s)</td> <td>To be confirmed during issuance time as per records</td> </tr> <tr> <td>Calibration frequency</td> <td>Once in 3 years.²⁷</td> </tr> <tr> <td>Date of Calibration/ validity</td> <td>To be confirmed during issuance</td> </tr> <tr> <td>Reference No. of Calibration Certificates</td> <td>To be confirmed during issuance</td> </tr> <tr> <td>Calibration Status</td> <td>To be confirmed during issuance</td> </tr> </table>	Type of meter(s)	Energy meter	Location of meter(s)	Substation	Accuracy of meter(s)	0.2s	Serial number of meter(s)	To be confirmed during issuance time as per records	Calibration frequency	Once in 3 years. ²⁷	Date of Calibration/ validity	To be confirmed during issuance	Reference No. of Calibration Certificates	To be confirmed during issuance	Calibration Status	To be confirmed during issuance
Type of meter(s)	Energy meter																
Location of meter(s)	Substation																
Accuracy of meter(s)	0.2s																
Serial number of meter(s)	To be confirmed during issuance time as per records																
Calibration frequency	Once in 3 years. ²⁷																
Date of Calibration/ validity	To be confirmed during issuance																
Reference No. of Calibration Certificates	To be confirmed during issuance																
Calibration Status	To be confirmed during issuance																
Frequency of Measuring/reading	Not Applicable																
Recording frequency	Continuous measurement & monthly recording																
Calculation method (if applicable)	-																
QA/QC procedures	<p>The meters are approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The frequency of calibration is once in a three year. The monthly electricity supplied/exported by the project activity mentioned in Credit Note is cross checked with the monthly electricity bills of respective project investors. In the absence or delay in the meter calibration appropriate Guidelines will be applied appropriately to confirm the conservativeness of metering.</p> <p>The metering arrangement, accuracy class of meters, calibration frequency is under control of state electricity board and project owner do not have any control on it. Project owner is getting value of net electricity supplied to grid and the same is considered the monitoring parameter.</p>																
Purpose of data	To assess the contribution towards SDG 7- calculate the baseline emission value.																
Additional comments	Data will be archived in paper & electronic form for two years after the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later.																

Data / Parameter:	Local Employment Generation (SDG:8, Indicator: 8.5.1)
Methodology reference	GCC Project Sustainability Standard_V3.1.
Data unit	Number
Description	Number of local employment generation. Short term and long-term employment have been taken into account.

²⁷ As per state DISCOM regulation

Measured/calculated /default	Measured																		
Data source	Appointment letter																		
Value(s) of monitored parameter applied with basis	At least 2 persons for each site																		
Measurement/ Monitoring equipment	<table border="1"> <tr> <td colspan="2">Not Applicable</td> </tr> <tr> <td>Type of meter(s)</td> <td></td> </tr> <tr> <td>Location of meter(s)</td> <td></td> </tr> <tr> <td>Accuracy of meter(s)</td> <td></td> </tr> <tr> <td>Serial number of meter(s)</td> <td></td> </tr> <tr> <td>Calibration frequency</td> <td></td> </tr> <tr> <td>Date of Calibration/ validity</td> <td></td> </tr> <tr> <td>Reference No. of Calibration Certificates</td> <td></td> </tr> <tr> <td>Calibration Status</td> <td></td> </tr> </table>	Not Applicable		Type of meter(s)		Location of meter(s)		Accuracy of meter(s)		Serial number of meter(s)		Calibration frequency		Date of Calibration/ validity		Reference No. of Calibration Certificates		Calibration Status	
Not Applicable																			
Type of meter(s)																			
Location of meter(s)																			
Accuracy of meter(s)																			
Serial number of meter(s)																			
Calibration frequency																			
Date of Calibration/ validity																			
Reference No. of Calibration Certificates																			
Calibration Status																			
Frequency of Measuring/reading	Not Applicable																		
Recording frequency	Yearly																		
Calculation method (if applicable)	Total number through a source document.																		
QA/QC procedures	The total number of local people employed can be confirmed from the appointment letter.																		
Purpose of data	To justify SDG Goal 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all																		
Additional comments	-																		

Data / Parameter:	Climate Action (SDG 13, Indicator: 13.2.2)
Methodology reference	GCC Project Sustainability Standard_V3.1.
Data unit	tCO ₂ e/annum
Description	Emission reductions achieved per year
Measured/calculated /default	Calculated
Data source	As per Estimated ER sheet. During the verification, the results are obtained from the Actual ER sheet.
Value(s) of monitored parameter applied with basis	37,678

Measurement/ Monitoring equipment	Not Applicable	
	Type of meter(s)	
	Location of meter(s)	
	Accuracy of meter(s)	
	Serial number of meter(s)	
	Calibration frequency	
	Date of Calibration/ validity	
	Reference No. of Calibration Certificates	
	Calibration Status	
Frequency of Measuring/reading	Not Applicable	
Recording frequency	Monthly	
Calculation method (if applicable)	The baseline emissions are the product of electrical energy baseline $EG_{PJ, y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.	
QA/QC procedures	Reduction of Greenhouse gases results in clean environment.	
Purpose of data	To justify SDG Goal 13 – Take urgent action to combat climate change and its impacts	
Additional comments	-	

For Parameters to be monitored for E+/S+ assessments and SDG labels (positive impacts)

Data / Parameter:	Number of people employed for more than 1 year by the project	
Purpose:	To monitor a social impact identified as not harmful in the risk assessment and to develop a Program of Risk Management Actions plan to address the risk of PRMA 05.	
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	Long term jobs	
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG		
	Parameter to be monitored	Long term jobs will be provided under the project activity
	Frequency of monitoring	Annual
	Legal /regulatory / corporate limits (if any)	NA
	QA/QC	Record will be maintained and summited during verification.

Remarks	NA
---------	----

Data / Parameter:	Number of people employed for less than 1 year by the project	
Purpose:	To monitor a social impact identified as not harmful in the risk assessment and to develop a Program of Risk Management Actions plan to address the risk of PRMA 06 (Program of Risk Management Actions for short term jobs (PRMA 06))	
Describe the environment /social impact risk that needs to be mitigated.	Short term jobs.	
Describe the actions and targets that will be implemented to ensure that the Project Activity will avoid negative impacts that cause harm.		
	Parameter to be monitored	Short term jobs will be provided under the project activity
	Frequency of monitoring	Annual
	Legal /regulatory / corporate limits (if any)	Not applicable
	QA/QC	Record will be maintained and summited during verification.
Remarks	NA	

Data / Parameter:	Number of persons trained on on-site safety measures	
Purpose:	To monitor a social impact identified as not harmful in the risk assessment and to develop a Program of Risk Management Actions plan to address the risk of PRMA 10	
Describe the environment /social impact risk that needs to be mitigated.	Risk of accident	
Describe the actions and targets that will be implemented to ensure that the Project Activity will avoid negative impacts that cause harm.		
	Parameter to be monitored	No of training provided on safety and preventive measures for avoiding accidents at site
	Frequency of monitoring	Annual
	Legal /regulatory / corporate limits (if any)	Not applicable
	QA/QC	Record will be maintained and summited during verification.
Remarks	NA	

Data / Parameter:	Number of persons provided with on job training
Purpose:	To monitor a social impact identified as not harmful in the risk assessment and to develop a Program of Risk Management Actions plan to address the risk of PRMA 11.

Describe the environment /social impact risk that needs to be mitigated.	Skill and capacity of persons required to be enhanced periodically to work in new technology measures. Project owner provides on job training to persons working in the project resulting in enhanced skill	
Describe the actions and targets that will be implemented to ensure that the Project Activity will avoid negative impacts that cause harm.		
	Parameter to be monitored	Providing on job training resulting in skill enhancement
	Frequency of monitoring	Annual
	Legal /regulatory / corporate limits (if any)	Not applicable
	QA/QC	Record will be maintained and summited during verification.
Remarks	NA	

Data / Parameter:	CO₂ emissions (EA03)	
Purpose:	To demonstrate positive impacts of aspects wrt baseline scenario / BAU / pre-existing scenario and to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.	
Describe the environment /social impact risk that needs to be mitigated.	CO ₂ emission reduction causes a positive impact and positively contributes to SDG 13 as the project activity involves generation of renewable energy and displacement of emission intensive energy in the connected grid.	
Describe the actions and targets that will be implemented to ensure that the Project Activity will avoid negative impacts that cause harm.		
	Parameter to be monitored	CO ₂ emissions
	Frequency of monitoring	Annual
	Legal /regulatory / corporate limits (if any)	Not applicable
	QA/QC	-
Remarks	NA	

B.7.2 Data and parameters to be monitored for E+/S+ assessments (negative impacts)

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Data / Parameter:	Noise
Purpose:	To demonstrate compliance of Environment aspects to legal/regulatory/corporate requirements or to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.

Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	<p>Wind turbines tend to generate a lot of noise which can be unpleasant</p> <p>Program of Risk Management Actions for Noise Pollution (EA09)</p>																																																								
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG	<table border="1"> <tr> <td style="background-color: #e1eef6;">Parameter to be monitored</td> <td>Noise due to operational activities</td> </tr> <tr> <td style="background-color: #e1eef6;">Frequency of monitoring</td> <td>Annual</td> </tr> <tr> <td style="background-color: #e1eef6;">Legal /regulatory / corporate limits (if any)</td> <td>NA</td> </tr> <tr> <td style="background-color: #e1eef6;">QA/QC</td> <td>NA</td> </tr> </table>	Parameter to be monitored	Noise due to operational activities	Frequency of monitoring	Annual	Legal /regulatory / corporate limits (if any)	NA	QA/QC	NA																																																
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QA/QC	NA																																																								
Program of Risk Management Actions to mitigate risk related to aspect (if any for aspects assessed to be harmful)	<table border="1"> <thead> <tr> <th style="background-color: #e1eef6;">S.No.</th> <th style="background-color: #e1eef6;">Action and targets</th> <th style="background-color: #e1eef6;">Responsibility</th> <th style="background-color: #e1eef6;">Resource Requirement</th> <th style="background-color: #e1eef6;">Target to be Achieved by (insert date)</th> <th style="background-color: #e1eef6;">Key Performance Indicators (KPI)</th> <th style="background-color: #e1eef6;">Targets achieved on (insert date)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Monitoring of noise level</td> <td>Project Owner</td> <td>1</td> <td>29/03/2018</td> <td>Noise level Assessment</td> <td>28/03/2028</td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Date of Closing the Program:</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	S.No.	Action and targets	Responsibility	Resource Requirement	Target to be Achieved by (insert date)	Key Performance Indicators (KPI)	Targets achieved on (insert date)	1	Monitoring of noise level	Project Owner	1	29/03/2018	Noise level Assessment	28/03/2028	2							3							4							5							6							Date of Closing the Program:						
S.No.	Action and targets	Responsibility	Resource Requirement	Target to be Achieved by (insert date)	Key Performance Indicators (KPI)	Targets achieved on (insert date)																																																			
1	Monitoring of noise level	Project Owner	1	29/03/2018	Noise level Assessment	28/03/2028																																																			
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5																																																									
6																																																									
Date of Closing the Program:																																																									

Data / Parameter:	Hazardous waste
Purpose:	To demonstrate compliance of Environment aspects to legal/regulatory/corporate requirements or to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	<p>Improper disposal of generated e-waste may create soil contamination.</p> <p>To mitigate/reduce an environmental impact identified as harmful in the risk assessment and to develop a Program of Risk Management Actions plan to address the risk of EL02.</p>

Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG							
	Parameter to be monitored		Quantity of Hazardous waste				
	Frequency of monitoring		Annual				
	Legal /regulatory / corporate limits (if any)		NA				
	QA/QC		Record of Hazardous waste will be maintained and summited during verification.				
Program of Risk Management Actions to mitigate risk related to aspect (if any for aspects assessed to be harmful)							
	S.No.	Action and targets	Responsibility	Resource Requirement	Target to be Achieved by (insert date)	Key Performance Indicators (KPI)	Targets achieved on (insert date)
	1	Hazardous waste records of storage and disposal	Project owner	1	29/03/2018	Hazardous waste generated records	28/03/2028
	Date of Closing the Program:						

Data / Parameter:	Land Use Change	
Purpose:	To demonstrate compliance of Environment aspects to legal/regulatory/corporate requirements or to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.	
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	Construction of wind turbines can have land use change impacts. The wind turbine will not degrade the land and will not have an impact of EL08.	
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG		
	Parameter to be monitored	
	Change is Land use pattern	
	Frequency of monitoring	-
	Legal /regulatory / corporate limits (if any)	-
QA/QC	-	

Program of Risk Management Actions to mitigate risk related to aspect (if any for aspects assessed to be harmful)	<table border="1"> <thead> <tr> <th>S.No.</th> <th>Action and targets</th> <th>Responsibility</th> <th>Resource Requirement</th> <th>Target to be Achieved by (insert date)</th> <th>Key Performance Indicators (KPI)</th> <th>Targets achieved on (insert date)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Land use change</td> <td>Project owner</td> <td>1</td> <td>29/03/2018</td> <td>Land use change record</td> <td>28/03/2028</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="3">Date of Closing the Program:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						S.No.	Action and targets	Responsibility	Resource Requirement	Target to be Achieved by (insert date)	Key Performance Indicators (KPI)	Targets achieved on (insert date)	1	Land use change	Project owner	1	29/03/2018	Land use change record	28/03/2028								Date of Closing the Program:													
	S.No.	Action and targets	Responsibility	Resource Requirement	Target to be Achieved by (insert date)	Key Performance Indicators (KPI)	Targets achieved on (insert date)																																		
	1	Land use change	Project owner	1	29/03/2018	Land use change record	28/03/2028																																		
	Date of Closing the Program:																																								
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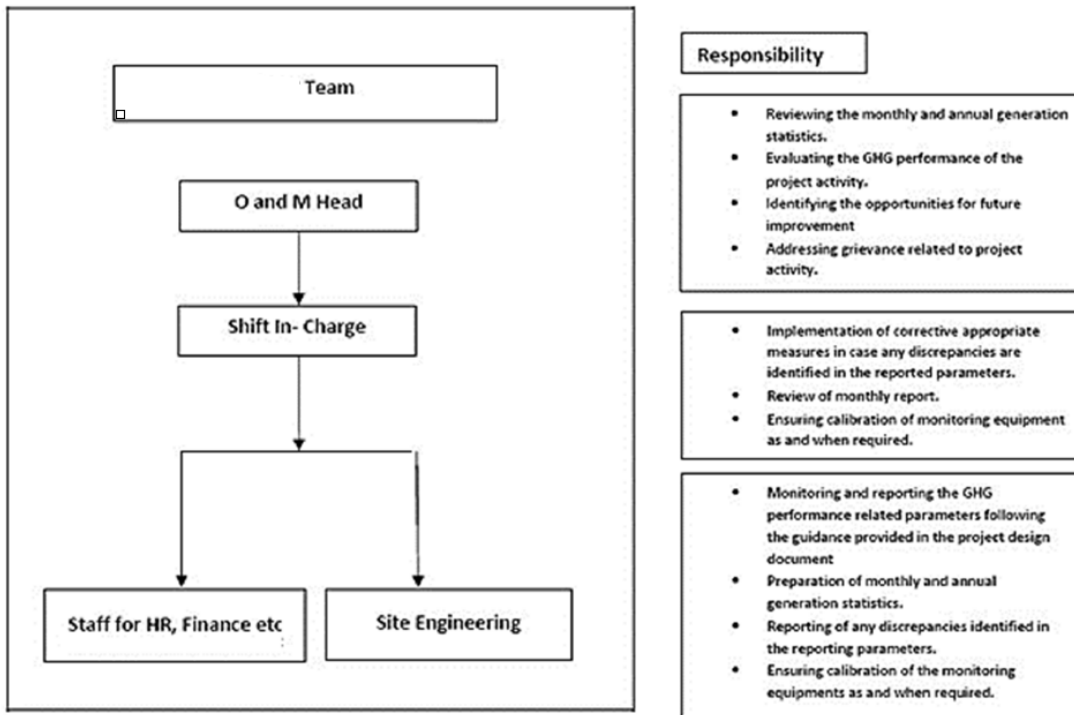
Data / Parameter:	Bird hits due to wind turbine operation																																										
Purpose:	To demonstrate compliance of Environment aspects to legal/regulatory/corporate requirements or to demonstrate that they do not cause any net harm to environment / society or have an impact on SDG as per selected indicators.																																										
Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.	The operational wind turbines hav blades running which may impact the bird travelling. However, the wind turbine blades are at a height of more than 50 m and it is unlikely to cause an issue for bird travelling. Moreover, the project is not in the path of migratory birds as confirmed by project owner (ENR03).																																										
Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG	<table border="1"> <thead> <tr> <th>Parameter to be monitored</th> <th>Bird Hit records</th> </tr> </thead> <tbody> <tr> <td>Frequency of monitoring</td> <td>Annual</td> </tr> <tr> <td>Legal /regulatory / corporate limits (if any)</td> <td>-</td> </tr> <tr> <td>QA/QC</td> <td>-</td> </tr> </tbody> </table>	Parameter to be monitored	Bird Hit records	Frequency of monitoring	Annual	Legal /regulatory / corporate limits (if any)	-	QA/QC	-																																		
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1	Bird hit records	Project owner	1	29/03/2018	Bird hit record	28/03/2028																																					
Date of Closing the Program:																																											

B.7.3. Sampling plan

Not Applicable

B.7.4. Other elements of the monitoring plan

The authority and responsibility for registration, monitoring, measurement, reporting and reviewing of the data rests with the GCC Project Owner. Project owner proposed the following structure for data monitoring, collection, data archiving and calibration of equipment's for this project activity. The team comprises of the following members:



Data Measurement:

The electricity generated is being measured continuously using above mentioned Main and Check meters located at the substations. Readings of meters are being taken on monthly basis by authorized officer of TNEB in the presence of project owner or representative of project owner. Based on the Meter Reading Statement to PP, invoices will be raised. These invoices can be used for cross checking the meter readings taken for the respective project activity.

Data collection and archiving

Readings from meters will be collected in the presence of the plant in-charge. Export and Import data would be recorded and stored in logs as well as in electronic form on a daily basis. The records are checked periodically by the Plant Manager and discussed thoroughly with the plant supervisor. The period of storage of the monitored data will be 2 years after the end of crediting period or till the last issuance of ACCs for the project activity whichever occurs later.

Emergency preparedness

The project activity will not result in any unidentified activity that can result in substantial emissions from the project activity. No need for emergency preparedness in data monitoring is visualized. In the event that the main meter, which is used to record the net electricity exported by the project, is found to be faulty it will be repaired or replaced and the data from the check meter will be used in its place. In the unlikely event that the check meter fails it will also be repaired or replaced.

Personnel training

In order to ensure a proper functioning of the project activity and a properly monitoring of emission reductions, the staff will be trained. The plant helpers will be trained in equipment operation, data recording, reports writing, operation and maintenance and emergency procedures in compliance with the monitoring plan.

QA/QC procedures

The energy meters at the feeders are maintained and owned by state electricity board. Neither the project proponent nor the site personnel have any control over it. The records will be cross checked with the records of sold electricity to state electricity board. The meters are calibrated by state electricity board at-least once in three years.

Section C. Start date, crediting period type and duration

C.1. Start date of the Project Activity

Start date of the project activity is the earliest date of interconnection with the grid i.e., 29/03/2018.

The details of the commissioning dates of the individual project activity.

Details of Phase Wise Commissioning is given below:

S.No.	Organization name	Capacity (MW)	Location	Date of commissioning
1	Aadhav Energy Tech Private Limited	2.1	Vellapaneri, Tamilnadu	31/03/2018
2	Aniruth Green India Private Limited	2.1	Vellapaneri, Tamilnadu	29/03/2018
3	Arun Wind Mills India Private Limited	2.1	Vellapaneri, Tamilnadu	30/06/2018
4	Arvind Green Infra Private Limited	2.1	Vellapaneri, Tamilnadu	29/03/2018
5		2.1	Vellapaneri, Tamilnadu	31/03/2018
6	R.Aswwatha Greens Private Limited	2.1	Vellapaneri, Tamilnadu	31/03/2018
7	E.R.Aditya Pure Wind Private Limited	2.1	Vellapaneri, Tamilnadu	31/03/2018
8	Shyamala Wind Energy Private Limited	2.1	Vellapaneri, Tamilnadu	31/03/2018

9	Karur Sri Rama Wind Energy Private Limited	2.1	Vellapaneri, Tamilnadu	29/03/2018
10	Allied Wind Powers Private Limited	2.1	Vellapaneri, Tamilnadu	31/03/2018

C.2. Expected operational lifetime of the Project Activity

25 years 00 Months

C.3. Crediting period of the Project Activity

Crediting Period Start date: 29/03/2018

Crediting Period End date: 28/03/2028

C.3.1. Start and end date of the crediting period

29/03/2018 (earliest date of commissioning of the WTG involved in the bundle).

C.3.2. Duration of crediting period

10 years

Section D. Environmental impacts

D.1. Analysis of environmental impacts

The project activity does not involve any major construction activity. It primarily requires the installation of the wind turbines, interfacing the generators with the State Electricity Board by setting up HT transmission lines and installation of other accessories.

The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013. This report clearly mentioned that wind project activity operations do not result in direct air pollution, noise pollution. Please refer below web link for the same.

Thus, there is no any significant impact due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity. However, further analysis has been done in section E.30

D.2. Environmental impact assessment and management action plans

The guidelines on Environmental Impact Assessment have been published by Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India (GOI) under

Environmental Impact Assessment notification 14/09/2006²⁸ . Further amendments to the notification have been done on 14/07/2018. As per the notification:

“The following projects or activities shall require prior environmental clearance from the concerned regulatory authority, which shall hereinafter referred to be as the Central Government in the Ministry of Environment and Forests for matters falling under Category ‘A’ in the Schedule and at State level the State Environment Impact Assessment Authority (SEIAA) for matters falling under Category ‘B’ in the said Schedule, before any construction work, or preparation of land by the project management except for securing the land, is started on the project or activity:

- 1) All new projects or activities listed in the Schedule to this notification;
- 2) Expansion and modernization of existing projects or activities listed in the Schedule to this notification with addition of capacity beyond the limits specified for the concerned sector, that is, projects or activities which cross the threshold limits given in the Schedule, after expansion or modernization;
- 3) Any change in product - mix in an existing manufacturing unit included in Schedule beyond the specified range.”

As the wind generation projects are not listed in any of the categories of the schedule. So, the project is considered environmentally safe and as per Host party- India no EIA is required.

Section E. Environmental and social safeguards

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²⁸ <http://www.environmentwb.gov.in/pdf/EIA%20Notification,%202006.pdf>

E.1. Environmental safeguards

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Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards							Project Owner's Conclusion		GCC Project Verifier's Conclusion (to be included in Project Verification Report only)		
		Description of Impact (positive or negative)	Legal/voluntary corporate requirement / regulatory/voluntary corporate threshold Limits	Do-No-Harm Risk Assessment (choose which ever is applicable)			Risk Mitigation Action Plans for aspects marked as Harmful		Performance indicator for monitoring of impact		Ex-ante scoring of environmental impact	Explanation of the Conclusion	3 rd Party Audit
				Not Applicable	Harmless	Harmful	Operational Controls	Program of Risk Management Actions	Monitoring parameter frequency monitoring and of	Ex- Ante scoring of the environmental impact (as per scoring matrix Appendix-02)			
<p>Environmental Aspects on the identified categories²⁹ indicated below.</p>	<p>Indicators for environmental impacts</p>	<p>Describe and identify anticipated and actual significant environmental impacts, both positive and negative from all sources (stationary and mobile) during normal and abnormal/emergency conditions, that may result from the construction and operations of the Project Activity, within and outside the project boundary, over which the Project Owner(s) has/have control.</p>	<p>Describe the applicable national regulatory requirements /legal limits / voluntary corporate limits related to the identified risks of environmental impacts.</p>	<p>If no environmental impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as Not Applicable</p>	<p>If environmental impacts exist, but are expected to be in compliance with applicable national regulatory /stricter voluntary corporate requirements and will be within legal/voluntary corporate limits by way of plant design and operating principles, then the Project Activity is</p>	<p>If negative environmental impacts exist that will not be in compliance with the applicable national legal/ regulatory requirements or are likely to exceed legal limits, then the Project Activity is likely to cause harm (may be</p>	<p>Describe the operational controls and best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as 'Harmful' at least to a level that is in compliance with applicable legal/regulator requirements or industry best practice or stricter voluntary corporate requirements</p>	<p>Describe the Program of Risk Management Actions (refer to Table 3), focusing on additional actions (e.g., installation of pollution control equipment) that will be adopted to reduce or eliminate the risk of impacts that have been identified as Harmful.</p>	<p>Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless or harmful. The frequency of monitoring to be specified as well including the data source.</p>	<p>-1 0 +1</p>	<p>Confirm the score of environmental impact of the project with respect to the aspect and its monitored value in relation to legal /regulatory limits (if any) including basis of conclusion.</p>	<p>Describe how the GCC Verifier has assessed that the impact of the Project Activity against the particular aspect and in case of "harmful impacts" how has the project adopted Risk Mitigation Action Plans to mitigate the risks of negative environmental impacts to levels that are unlikely to cause any harm as well as the net positive impacts of the project with respect to the most likely baseline alternative.</p>	

²⁹ sourced from the CDM SD Tool and the sample reports are available (<https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx>)

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					unlikely to cause any harm (is safe) and shall be indicated as Harmless /if the project has an positive impact on the environment mark it as "harmless" as well.	un-safe) and shall be indicated as Harmful						
Reference to paragraphs of Environmental and Social Safeguards Standard		Paragraph 12 (a)	Paragraph 13 (c)	Paragraph 13 (d) (i)	Paragraph 13 (d) (ii)	Paragraph 13 (d) (iii)	Paragraph 13 (e) (i)	Paragraph 13 (e) (ii)	Paragraph 12 (c) and Paragraph 13 (f)	Paragraph 22		Paragraph 24 and Paragraph 26 (a) (i)
Environment - Air	SO _x emissions (EA01)	The wind power project does not cause any SO _x emissions in the project scenario. However, in the baseline scenario (grid) some of the fossil fuel power plants may have emitted SO _x emissions, on which data is not available and can't be quantified.	The Air (Prevention & Control of Pollution) Act 1981 stipulates thresholds for both ambient air quality as well as stack emissions.	Not Applicable as no emissions occur in the project scenario and therefore is not expected to or does not cause any harm.	Not Applicable. No Action Required	Not Applicable. No action required	Not Applicable	Not Applicable	Not Applicable	NA	<p>With reference to the CPCB modified direction No. B29012/ESS (CPA)/2015-16; dated March 07, 2016 (Appendix A) wind power project falls in White category and it is mentioned in the notification that there shall be no necessity of obtaining the Consent to Operate" for White category of industries.</p> <p>However, in the baseline scenario (grid) some of the fossil fuel power plants may have emitted SO_x emissions, on which data is not available and can't be quantified and therefore the emission reductions</p>	

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											cannot be quantified and therefore this parameter will not be scored.	
<i>NO_x emissions (EA02)</i>	Not Applicable	The Air (Prevention & Control of Pollution) Act 1981	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	NA	With reference to the CPCB modified direction No. B29012/ESS(CPA)/2015-16; dated March 07, 2016 (Appendix A) wind power project falls in White category and it is mentioned in the notification that there shall be no necessity of obtaining the Consent to Operate" for White category of industries However, the in the baseline scenario (grid) some of the fossil fuel power plants may have emitted NOx emissions, on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.		
<i>CO₂ emissions (EA03)</i>	In absence of the project activity the stated amount of generated electricity would be generated by the operation of grid - connected power plants. The caused CO ₂ emissions by the grid - connected power plants is expressed as grid emission factor, i.e. t CO ₂ /MWh generated grid electricity, due to fossil fuel based grid power	The Air (Prevention & Control of Pollution) Act 1981 stipulates thresholds for both ambient air quality as well as	Not Applicable as no emissions occur in the project scenario and therefore is not expected to or does not	Not Applicable. No Action Required	Not Applicable. No action required	Not Applicable	Not Applicable	The generated electricity the project activity will be continuously measured and the related CO ₂ emission reduction will be calculated according to the applied methodology ACM0002 (version 20.0)	+1	With reference to the CPCB modified direction No. B29012/ESS (CPA)/2015-16; dated March 07, 2016 (Appendix A) wind power project falls in White category and it is mentioned in the notification that there shall be no necessity of		

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		plants. Therefore, the non-fossil fuel, zero emission - generated electricity by the project activity will substitute the grid electricity and related CO ₂ emissions, i.e., CO ₂ emission reduction = generated electricity by the project activity x grid emission factor	stack emissions.	cause any harm.							obtaining the Consent to Operate" for White category of industries. However, in the baseline scenario (grid) some of the fossil fuel power plants may have emitted CO ₂ emissions, which has been calculated by the combined margin emission factor as mentioned in the PSF. Therefore, emission reductions are expected to be reduced which will be regularly monitored and verified ex-post and therefore is eligible to be scored.	
CO emissions (EA04)	Not Applicable		The Air (Prevention & Control of Pollution) Act 1981	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	NA	With reference to the CPCB modified direction No. B29012/ESS(CPA)/2015-16; dated March 07, 2016 (Appendix A) wind power project falls in White category and it is mentioned in the notification that there shall be no necessity of obtaining the Consent to Operate" for White category of industries However, the in the baseline scenario (grid) some of the fossil fuel power plants may have emitted CO emissions, on which data is not available and can't be	

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												quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.	
<i>Suspended particulate matter (SPM) emissions (EA05)</i>	Not Applicable	The Air (Prevention & Control of Pollution) Act 1981	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA	With reference to the CPCB modified direction No. B29012/ESS(CPA)/2015-16; dated March 07, 2016 (Appendix A) wind power project falls in White category and it is mentioned in the notification that there shall be no necessity of obtaining the Consent to Operate" for White category of industries However, the in the baseline scenario (grid) some of the fossil fuel power plants may have emitted SPM emissions, on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.		
<i>Fly ash generation (EA06)</i>	Not Applicable	The Air (Prevention & Control of Pollution) Act 1981	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA	With reference to the CPCB modified direction No. B29012/ESS(CPA)/2015-16; dated March 07, 2016 (Appendix A) wind power project falls in White category and it is mentioned		

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											<p>in the notification that there shall be no necessity of obtaining the Consent to Operate" for White category of industries</p> <p>However, the in the baseline scenario (grid) some of the fossil fuel power plants may have emitted fly ash emissions, on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.</p>	
	<p>Non-Methane Volatile Organic Compounds (NMVOCs) (EA07)</p>	<p>Not Applicable</p>	<p>The Air (Prevention & Control of Pollution) Act 1981</p>	<p>Not Applicable</p>	<p>No Action Required</p>	<p>No action required</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>NA</p>	<p>With reference to the CPCB modified direction No. B29012/ESS(CPA)/2015-16; dated March 07, 2016 (Appendix A) wind power project falls in White category and it is mentioned in the notification that there shall be no necessity of obtaining the Consent to Operate" for White category of industries</p> <p>However, the in the baseline scenario (grid) some of the fossil fuel power plants may have emitted NM/VOCs emissions, on which data is not available and can't be</p>	

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											quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.	
<i>Odor (EA08)</i>	Not Applicable	The Air (Prevention & Control of Pollution) Act 1981	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA	With reference to the CPCB modified direction No. B29012/ESS(CPA)/2015-16; dated March 07, 2016 (Appendix A) wind power project falls in White category and it is mentioned in the notification that there shall be no necessity of obtaining the Consent to Operate" for White category of industries However, the in the baseline scenario (grid) some of the fossil fuel power plants may have emitted Odor emissions, on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.	
<i>Noise Pollution (EA09)</i>	Wind turbines produce noise when operating. The noise is generated primarily from mechanical and aerodynamic sources. Mechanical noise may be generated by machinery in the nacelle. Aerodynamic noise emanates from the	Noise (Regulation and Control) Rules 2000 amended in 2010)	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	+1	The noise pollution related to the wind power plant complies with the Noise (Regulation and Control) Rules 2000 amended in 2010).	

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		<p>movements of air around the turbine blades and tower. The types of aerodynamic noise may include low frequency, impulsive low frequency, tonal and continuous broadband. In addition, the amount of noise may rise with increasing rotation speed of the turbine blade,</p>									<p>Due to the technical specification of the wind turbine and the distance between two wind farms maintained at site, it is expected that noise will be significantly low from the project activity.</p>	
	<p><i>Shadow Flicker</i></p>	<p>Shadow flicker occurs when the sun passes behind the wind turbine and casts a shadow. As the rotor blades rotate, shadows pass over the same point causing an effect termed shadow flicker. Shadow flicker may become a problem when potentially sensitive receptors (e.g., residential properties, workplaces, learning and/or health care spaces/facilities) are located nearby, or have a specific orientation to the wind energy facility</p>	<p>No Indian legislation exists.</p> <p>As guidance the Environmental, Health and Safety Guidelines for Wind Energy issued by the IFC (international financial corporation)</p>	NA	NA	NA	NA	NA	NA	NA	<p>Proposed wind turbines are coated with non-reflective paint, which will avoid reflection of light from towers.</p> <p>Similar to shadow flicker, blade or tower glint occurs when the sun strikes a rotor blade or the tower at a particular orientation.</p> <p>This can impact the community, as the reflection of sunlight off the rotor blade may be angled toward nearby residences.</p> <p>Blade glint is a temporary phenomenon for new turbines only, and typically disappears when blades get soiled after a few months of operation.</p> <p>Since the settlements are more than 500 m</p>	

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												away from the project site this problem is not anticipated in the operational stage of the project. Also, WTGs considered in this project are painted with non-reflective coatings; reflection from tower is not anticipated.	
	Add more rows if required and corresponding notation with EA as prefix)												
Environ ment - Land	Solid waste Pollution from Plastics (EL-01)	Not Applicable	Plastic Waste (Management and Handling) Rules, 2016	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	NA		No significant plastic waste is expected from the project activity during operational phase Hence, this parameter will not be scored.	
	Solid waste Pollution from Hazardous wastes (EL02)	The proposed project activity may generate the Solid waste Pollution from Hazardous waste.	Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2016	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	+1		As per MoEF&CC notification dated 01.03.2019 (G.S.R. 178(E)) the Occupier (developer) is not required to obtain authorization under Hazardous and Other Wastes (Management and Transboundary Movement) Amendment, Rules, 2019 if they are exempted from obtaining consent under Water (Prevention	

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											<p>and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.</p> <p>However, the legal owners of the project as described in section A.1. management should ensure proper disposal of Hazardous Waste (DG oil, if DG is installed) through actual user, waste collector or operator of the disposal facility, in accordance with the Central Pollution Control Board guidelines.</p> <p>Moreover, though not covered under the rule, the broken wind turbines are recommended to be sent back to the manufacture or an authorized recycler</p> <p>Hence, this parameter will not be scored.</p>	
<i>Solid waste Pollution from Bio-medical wastes (EL03)</i>	Not Applicable	Bio-medical Waste Management Rules, 2016	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	NA	No significant bio-medical waste will be generated from the project activity. Hence, this parameter will not be scored.		
<i>Solid waste Pollution</i>	Not Applicable	E-waste (Management and	Not Applicable	-	-	Records all electrical & electronics	The Legal owners of the project as	Not Applicable	NA	The Legal owners of the project as described in		

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<i>from E-wastes (EL04)</i>		Handling) Rules					waste of projects and filling of return	described in section A.1 management is responsible to maintain records and filling of returns as per applicable law			section A.1 management is responsible to maintain records and filling of returns as per applicable law and have no significant impact. Hence, this parameter will not be scored.
<i>Solid waste Pollution from Batteries (EL05)</i>	No batteries are involved in the project activity	Batteries (Management and Handling) Rules	Not Applicable	-	-		Records all electrical & electronics waste of projects and filling of return	The Legal owners of the project as described in section A.1 is responsible to maintain records and filling of returns as per applicable law	Not Applicable	NA	The Legal owners of the project as described in section A.1 management is responsible to maintain records and filling of returns as per applicable law and have no significant impact. Hence, this parameter will not be scored.
<i>Solid waste Pollution from end of life products/ equipment (EL06)</i>	Not Applicable	Solid Waste Management Rules, 2016	Not Applicable	-	-		Sold waste from the project activity must be disposed as applicable law	The Legal owners of the project as described in section A.1 management is responsible to maintain records and dispose all products after ending lifecycle as per applicable law	Not Applicable	NA	The Legal owners of the project as described in section A.1 management is responsible to maintain records and dispose all products after ending lifecycle as per applicable law and it will not be applicable for the project activity Hence, this parameter will not be scored.
<i>Soil Pollution from Chemicals (including Pesticides, heavy metals, lead, mercury) (EL07)</i>	Not Applicable	In India, there are no comprehensive soil quality regulations and standards to ascertain	Not Applicable	-	-		Not Applicable	Not Applicable	Not Applicable	NA	No significant soil pollution from chemicals during operation phase of the project activity However, the in the baseline scenario (grid) some of the fossil fuel power plants may have emitted soil

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			the seriousness of contamination								emissions, on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.	
	<i>land use change (change from cropland /forest land to project land) (EL08)</i>	The proposed project activity may have the change in Land use pattern.	In India, there are no comprehensive soil quality regulations and standards to ascertain the seriousness of contamination	Not Applicable	No Action Required	-	-	Not Applicable	Not Applicable	+1	There is no chance of soil erosion during operation phase of the project activity However, the in the baseline scenario (grid) some of the fossil fuel power plants may have emitted soil erosion emissions, on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.	
	<i>Others (EL09)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	<i>Add more rows if required</i>											
Environment - Water	<i>Reliability/ accessibility of water supply (EW01)</i>	Not Applicable	The Water (Prevention & Control of Pollution) Act 1974	Not Applicable	Not Applicable	-	-	Not Applicable	Not Applicable	NA	Supply water from local body will be used and necessary approval to be obtained. However, the in the baseline scenario (grid) some of the	

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												fossil fuel power plants may have emitted accessibility of water emissions, on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.	
<i>Water Consumption from ground and other sources (EW02)</i>	Not Applicable	Permission for abstraction of Ground water under Environmental (Protection) Act 1986	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA		No ground water will be consumed in all sites of the project activity & necessary permission to be obtained from concerned local authority in case use ground water in future. However, the in the baseline scenario (grid) some of the fossil fuel power plants may have emitted water consumption emissions, on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.	
<i>Generation of wastewater (EW03)</i>	Negative	The Water (Prevention & Control of Pollution) Act 1974	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA		There is no significant effect as provisions of septic tank and soak pits will be provided onsite for treatment and disposal of sewage, thereby minimizing the impacts of wastewater	

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											<p>discharge. Planning of toilets, soak pits and septic tanks, waste collection areas should be away from natural drainage channels</p> <p>However, the in the baseline scenario (grid) some of the fossil fuel power plants may have generation of waste water on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.</p>	
<p>Wastewater discharge without/with insufficient treatment (EW04)</p>	Not Applicable	The Water (Prevention & Control of Pollution) Act 1974	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	NA	<p>There is no significant effect as provisions of septic tank and soak pits will be provided onsite for treatment and disposal of sewage, thereby minimizing the impacts of wastewater discharge. Planning of toilets, soak pits and septic tanks, waste collection areas should be away from natural drainage channels</p> <p>However, the in the baseline scenario (grid) some of the fossil fuel power plants may have generation of waste water or its treatment on which data is not available</p>		

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											and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.	
<i>Pollution of Surface, Ground and/or Bodies of water (EW05)</i>	Not Applicable	The Water (Prevention & Control of Pollution) Act 1974	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA	<p>There is no significant effect as provisions of septic tank and soak pits will be provided onsite for treatment and disposal of sewage, thereby minimizing the impacts of wastewater discharge. Planning of toilets, soak pits and septic tanks, waste collection areas should be away from natural drainage channels</p> <p>However, the in the baseline scenario (grid) some of the fossil fuel power plants may have from surface water on which data is not available and can't be quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.</p>	
<i>Discharge of harmful chemicals like marine pollutants / toxic waste (EW06)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<i>Others (EW07)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

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	<i>Add more rows if required</i>											
Environment – Natural Resources	<i>Conserving mineral resources (ENR01)</i>	Not Applicable	In India, there are no conserving mineral regulations and standards to ascertain	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	NA	This is wind project activity and it is not using any natural minerals. Therefore, this parameter will not be scored.	
	<i>Protecting/enhancing plant life (ENR02)</i>	Not Applicable	In India, there are no comprehensive regulations and standards to ascertain for protecting plant life	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	NA	The project activity has been implemented in barrel land and no trees have been removed from the site due to project activity. Therefore, this parameter will not be scored.	
	<i>Protecting/enhancing species diversity (ENR03)</i>	There may be harmful effects on birds and bats due to the project activity.	In India, there are no comprehensive regulations and standards to ascertain for protecting plant life	Not Applicable	Harmless	No action required	Not Applicable	Not Applicable	Not Applicable	+1	There are no wildlife sanctuaries, bird sanctuaries or migratory paths within the 10 km radius of the Study area Wind turbine blade and towers visible to birds as blade tips and tower is painted with orange or red colour as per international standard measure to isolate from the sky and mitigates	

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											<p>risk of bird collisions.</p> <p>wind turbine blades shall rotate between 12 to 18 RPM as per SOP. The slow rotating blades are made more visible to the birds</p> <p>Installed spike guards on poles/channels to avoid any bird sitting on them and reduce the chances of electrical shocks</p> <p>Covered the jumpers on the electric poles by HDPE pipes to insulate jumpers which would prevent electrocution of birds.</p> <p>Hence it is expected that no significant impact bird and bat species habitat the project activity is unlikely to cause any harm.</p> <p>.</p> <p>therefore</p>	
	<i>Protecting/enhancing forests (ENR04)</i>	Not Applicable	The Forest (Conservation) Act 1980 & 1981	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	NA	No forest land has been used for the project activity.	
	<i>Protecting/enhancing other depletable natural</i>	Not Applicable	National Forest Policy (Revised)	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	NA	The project activity has been implemented in barrel land and no trees have been	

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	<i>resources (ENR05)</i>		1988									removed from the site due to project activity or no other natural resource has been used to operate project activity. Therefore, this parameter will not be scored.	
	<i>Conserving energy (ENR06)</i>	Not Applicable	Energy Conservation Act 2001	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA	All efficient products & instruments has been used in the project activity, hence no significant impact due to this, therefore this parameter will not be scored.	
	<i>Replacing fossil fuels with renewable sources of energy (ENR07)</i>	Not Applicable	Energy Conservation Act 2001	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA	No impact as project activity is not replacing fossil fuels with renewable resources	
	<i>Replacing ODS with non-ODS refrigerants (ENR08)</i>	Not Applicable	In India, there are no comprehensive regulations and standards to ODS & non ODS	Not Applicable	No Action Required	No action required	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA	No impact Therefore this parameter will not be scored.	
	<i>Others (ENR09)</i>												
	<i>Add more rows if required</i>												
Net Score:				+5									

Project Owner's Conclusion in PSF:		The Project Owner confirms that the Project Activity will not cause any net harm to Environment.
GCC Project Verifier's Opinion:		The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to the environment.

E.2. Social Safeguards

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Impact of Project Activity on		Information on Impacts, Do-No-Harm Risk Assessment and Establishing Safeguards							Project Owner's Conclusion		GCC project Verifier's Conclusion (to be included in Project Verification Report only)
		Description of Impact <i>(positive or negative)</i>	Legal requirement /Limit, Corporate policies / Industry best practice	Do-No-Harm Risk Assessment (choose which ever is applicable)			Risk Mitigation Action Plans (for aspects marked as Harmful)	Performance indicator for monitoring of impact.	Ex-ante scoring of environmental impact	Explanation of the Conclusion	3 rd Party Audit
				Not Applicable	Harmless	Harmful					
<p>Social Aspects on the identified categories³⁰ indicated below.</p>	<p>Indicators for social impacts</p>	<p>Describe and identify actual and anticipated impacts on society and stakeholders, both positive or negative, from all source during normal and abnormal/emergency conditions that may result from constructing and operating of the Project Activity within or outside the project boundary, over which the project Owner(s) has/have control</p>	<p>Describe the applicable national regulatory requirements / legal limits or organizational policies or industry best practices related to the identified risks of social impacts</p>	<p>If no social impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as Not Applicable</p>	<p>If social impacts exist, but are expected to be in compliance with applicable national regulatory requirements/ stricter voluntary corporate limits by way of plant design and operating principles then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as Harmless, project having positive impact on society wrt. To the BAU / baseline scenario</p>	<p>If negative social impacts exist that will not be in compliance with the applicable national legal/ regulatory requirements or are likely to exceed legal limits then the Project Activity is likely to cause harm and shall be indicated as Harmful</p>	<p>Describe the operational or management controls that can be implemented as well as best practices, focusing on how to implement and operate the Project Activity, to reduce the risk of impacts that have been identified as Harmful.</p>	<p>Describe the monitoring approach and the parameters (KPI) to be monitored for each impact irrespective of whether it is harmless of harmful. The frequency of monitoring to be specified as well. Monitoring parameters can be quantitative or qualitative in nature along with the data source</p>	<p>-1 0 +1</p>	<p>Confirm the score of the social impacts of the project with respect to the aspect and its monitored value in relation to legal/regulatory limits (if any) including basis of conclusion</p>	<p>Describe how the GCC Verifier has assessed that the impact of Project Activity on social aspects (based on monitored parameters, quantitative or qualitative) and in case of "harmful" aspects how has the project owner adopted Risk Mitigation Action / management actions plans and policies to mitigate the risks of negative social impacts to levels that are unlikely to cause any harm.</p> <p>Also describe the positive impacts of</p>

³⁰ sourced from the CDM SD Tool and the sample reports are available (<https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx>)

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					<i>must also mark their aspect as "harmless"</i>						<i>the project on the society as compared to the baseline alternative or BAU scenario.</i>
Reference to paragraphs of Environmental and Social Safeguards Standard		<i>Paragraph 12 (a)</i>	<i>Paragraph 13 (c)</i>	<i>Paragraph 13 (d) (i)</i>	<i>Paragraph 13 (d) (ii)</i>	<i>Paragraph 13 (d) (iii)</i>	<i>Paragraph 13 (e) (i)</i>	<i>Paragraph 12 (c) and Paragraph 13 (f)</i>	<i>Paragraph 23</i>		<i>Paragraph 24 and Paragraph 26 (a) (ii)</i>
Social - Jobs	<i>Long-term jobs (> 10 year) created/ lost (SJ01)</i>	The project activity leads to the employment generation	Not Applicable	Not Applicable	Not Applicable	Not Applicable	There are no harmful impacts of the project activity as it leads to the employment generation.	There are no impacts that have been identified as harmful.	+1	No risks have been identified and hence no risk mitigation action is required	
	<i>New short-term jobs (< 1 year) created/ lost (SJ02)</i>	The project activity leads to the employment generation	Not Applicable	Not Applicable	Not Applicable	Not Applicable	There are no harmful impacts of the project activity as it leads to the employment generation.	There are no impacts that have been identified as harmful.	+1	No risks have been identified and hence no risk mitigation action is required	
	<i>Sources of income generation increased/ reduced (SJ03)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Avoiding discrimination when hiring people</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	

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	<i>from different race, gender, ethnics, religion, marginalized groups, people with disabilities (SJ04)</i> <i>(human rights)</i>										
Social - Health & Safety	<i>Disease prevention (SHS01)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Occupational health hazards (SHS02)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Reducing / increasing accidents /Incidents/fatality (SHS03)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Reducing / increasing crime (SHS04)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Reducing / increasing food wastage (SHS05)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Reducing / increasing</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	

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	<i>g indoor air pollution (SHS06)</i>										
	<i>Efficiency of health services (SHS07)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Sanitation and waste management (SHS08)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Other health and safety issues (SHS09)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Add more rows if required</i>										
Social - Education	<i>specialized training / education to local personnel (SE01)</i>	Trainings have been provided to the employees	The created permanent jobs will receive specific job training by the project owner as per CSR policy of Project implementer	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Training records/evidence by the project owner	+1	The Respective legal owners of the project activity as stated in section A.1 of the PSF, should take initiative Promotion of education, including special education and employment enhancing vocation skills especially among children,	

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										women, elderly and the differently abled and livelihood enhancement projects	
	<i>Educational services improved or not (SE02)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	<i>Project-related knowledge dissemination effective or not (SE03)</i>	Negative	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	<i>Other educational issues (SE03)</i>	Negative	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	<i>Add more rows if required (SE04)</i>										
Social - Welfare	<i>Improving/deteriorating working conditions (SW01)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
	<i>Community and rural welfare (indigenous people and</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

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	<i>communities</i> (SW02)										
	<i>Poverty alleviation (more people above poverty level)</i> (SW03)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Improving / deteriorating wealth distribution / generation of income and assets</i> (SW04)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Increase or / deteriorating municipal revenues</i> (SW05)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Women's empowerment</i> (SW06) <i>(human rights)</i>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Reduced / increased traffic congestion</i> (SW07)	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	<i>Exploitation of</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	

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<i>Child labour (human rights) (SW08)</i>											
<i>Minimum wage protection (human rights) (SW09)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<i>Abuse at work place.(with specific reference to women and people with special disabilities / challenges) (human rights) (SW10)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<i>Other social welfare issues (SW11)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
<i>Avoidance of human trafficking and forced labour (human rights)</i>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

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	(SW12)										
	Avoidance of forced eviction and/or partial physical or economic displacement of IPLCs (human rights) (CW13)	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Provisions of resettlement and human settlement displacement (human rights)(CW14)	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Add more rows if required										
Net Score:		+3									
Project Owner's Conclusion in PSF:		The Project Owner confirms that the Project Activity will not cause any net harm to society.									
GCC Project Verifier's Opinion:		The GCC Verifier certifies that the Project Activity [is not likely to cause any] or [is likely to cause] net harm to society.									

Section F. United Nations Sustainable Development Goals (SDG)

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Project Submission Form

UN-level SDGs	UN-level Target	Declared Country-level SDG	Defining Project-level SDGs				GCC Project Verifier's Conclusion (to be included in Project Verification Report only)		
			Project-level SDGs	Project-level Targets/Actions	Contribution of Project-level Actions to SDG Targets	Monitoring	Verification Process	Are Goal/Targets Likely to be Achieved?	
<p>Describe UN SDG targets and indicators</p> <p>See: https://unstats.un.org/sdgs/indicators/indicators-list/</p>	Describe the UN-level target(s) and corresponding indicator no(s)	Has the host country declared the SDG to be a national priority? Indicate Yes or No	Define project-level SDGs by suitably modifying and customizing UN/ Country-level SDGs to the project scope or creating a new indicator(s). Refer to previous column ofr guidance.	Define project-level targets/actions in line with nee project level indicators chosen. Define the target date by which the project Activity is expected to achieve the project-level SDG target(s).	Describe and justify how actions taken under the Project Activity are likely to result in a direct positive effect that contributes to achieving the defined project-level SDG targets	Describe the monitoring approach and the monitoring parameters to be applied for each project-level SDG indicator and its corresponding target, frequency of monitoring and data source	Describe how the GCC Verifier has verified the claims that the project is likely to achieve the identified Project level SDGs target(s).	Describe whether the project-level SDG target(s) is likely to be achieved by the target date (Yes or No)	
Goal 1: End poverty in all its forms everywhere	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Goal 3. Ensure healthy lives and promote well-being for all at all ages	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		

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Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Goal 5. Achieve gender equality and empower all women and girls	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Goal 6. Ensure availability and sustainable management of water and sanitation for all	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all	SDG target 7.2 "By 2030, Increase substantially the share of renewable energy in the global energy mix" Indicator 7.2.1 Renewable energy share in the total final energy consumption	Yes, Same as described under goal 4.	The project activity has an installed capacity of 21 MW of renewable energy generated by wind power and will deliver up to 40,471 MWh/y (ex-ante estimation) zero emission electricity annually.	From the start of operation onwards the project activity will deliver renewable energy to the grid to increase the share of renewable energy in the national grid.	The net generated renewable electricity, which will be delivered to the grid over a period y will be used as project level indicator.	The wind power plant contributes directly to achieve the SDG target, because the project activity delivers renewable energy, which would otherwise generate by fossil fuel dominated grid connect power plants.	The net electricity supplied to the grid by the project activity is continuously monitored through energy meter (main and check meter) installed at the sub-station. The meters remain under the custody of state utility.		
Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive	8.5 "By 2030, achieve full and productive e&	Yes, Same as described under goal 4.	Number of Local employment generation	At least 5 employment opportunities would be generated.	8.5.1 Average hourly earnings of female and	Creating employment from project activity	The total number of persons which will be working in		

Project Submission Form

<p>employment and decent work for all</p>	<p>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". Indicator 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities</p>				<p>male employees, by occupation, age and persons with disabilities</p>		<p>the plant would be calculated based on the daily log available at site.</p>		
<p>Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>		
<p>Goal 10. Reduce inequality within and among countries</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>		

Project Submission Form

<p>Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>		
<p>Goal 12. Ensure sustainable consumption and production patterns</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>	<p>Not Applicable</p>		
<p>Goal 13. Take urgent action to combat climate change and its impacts</p>	<p>Integrate climate change measures into national policies, strategies and planning. Indicator 13.2.2: Total greenhouse gas emissions per year.</p>	<p>Yes, Same as described under goal 4.</p>	<p>The project will generate around 40,471 MWh electricity without greenhouse gas emissions. The project activity will avoid around 37,678 tCO₂e/annum greenhouse gas emissions compared to the current used grid connected power plant technology and used power sources (mainly fossil fuels).</p>	<p>From the operation onwards the project activity will deliver electricity without greenhouse gas emissions, i.e., 0t CO₂/net generated MWh.</p>	<p>The reduced greenhouse gas emissions per year will be used as proper project-level indicator.</p>	<p>The wind power plant contributes directly to achieve the SDG target, because the project activity delivers renewable energy, which would otherwise generated by fossil fuel dominated grid power plants.</p>	<p>The net generated electricity supplied to the grid (measured with electricity meters) multiplied with the CO₂ emission factor of the grid (as described by the UNFCCC CDM methodology CDM Methodological tool 07 "Tool to calculate the emission factor for an electricity system"- Version 07.0.) will give the reduced greenhouse gas emissions</p>		

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Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable		
SUMMARY						Targeted		Likely to be Achieved	

Project Submission Form

Total Number of SDGs	3	3
Certification label (Bronze, Silver, Gold, Platinum, or Diamond) for the ACCs as defined in the PSF	Silver	Silver

Section G. Local stakeholder consultation

G.1. MODALITIES FOR LOCAL STAKEHOLDER CONSULTATION

The local stakeholder consultation for the project activity have been carried out. The Local Stakeholder consultation documents have been provided to GCC Verifier during project verification of project activity.

Sl. No	Organization Name	Capacity (MW)	Location	Invitation date	Meeting date
1	Aadhav Energy Tech Private Limited	2.1	Vellapaneri, Tamilnadu	15/10/2017	30/10/2017
2	Aniruth Green India Private Limited	2.1	Vellapaneri, Tamilnadu	15/10/2017	30/10/2017
3	Arun Wind Mills India Private Limited	2.1	Vellapaneri, Tamilnadu	10/01/2018	25/01/2018
4	Arvind Green Infra Private Limited	2.1	Vellapaneri, Tamilnadu	15/09/2017	30/09/2017
5		2.1	Vellapaneri, Tamilnadu	15/09/2017	30/09/2017
6	R.Aswwatha Greens Private Limited	2.1	Vellapaneri, Tamilnadu	15/09/2017	30/09/2017
7	E.R.Aditya Pure Wind Private Limited	2.1	Vellapaneri, Tamilnadu	15/09/2017	01/10/2017
8	Shyamala Wind Energy Private Limited	2.1	Vellapaneri, Tamilnadu	15/09/2017	01/10/2017
9	Karur Sri Rama Wind Energy Private Limited	2.1	Vellapaneri, Tamilnadu	01/10/2017	15/10/2017
10	Allied Wind Powers Private Limited	2.1	Vellapaneri, Tamilnadu	01/10/2017	15/10/2017

The Local Stakeholder consultation details are given as below:

Stakeholders identified (Group of stakeholders identified)	Mode of invitation (means for inviting stakeholders)	Mode of Comments receipt
Stakeholders includes – 1. Villagers and community leaders of the vicinity 2. Local Labors	Through notice to head of the village and invitation to identified stakeholders.	1. Suggestion in grievance register 2. Structured feedback form 3. Verbal communication that is being minute

<p>3. Local government agencies</p> <p>4. Health institutions</p> <p>5. Academic institutions</p> <p>6. Local environmental and social associations</p>		<p>4. Provision for receipt of communication via e-mails</p>
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Project representatives explained the project benefits and how project would help to fight against climate change and no any negative comments received during the local stakeholder round. The Minutes of meeting with commenting sheet from LSH, invitation letter receipt copy is submitted to the GCC Verifier for further check. Few queries raised during local stakeholder consultation are addressed satisfactorily.

Villagers were totally in support for setting up of these kinds of projects in the region. The PP also placed a grievance register onsite in where the stakeholder can put down his/her complain and the same if found genuine will be addressed immediately. Also, regular stakeholder engagement is one the key focus at the site.

G.2. SUMMARY OF COMMENTS RECEIVED

The Meeting started with opening speech by representative of GCC project owner. He introduced all guests on dais. The representative of GCC project owner explained technical aspects of project to stakeholders. He also explained about social, environmental & economic benefits of the project. He also elaborated about carbon mechanism & its requirement for the current project. After the detailed discussions, the session was open for questions from stakeholders.

Most of the questions were related to employment opportunities, economic development, benefits from project to villagers and other development activities. The question raised by the villagers are summarised below:

Q: Will there be free supply of power to the local people?

A: The generated power will be fed in the grid. Project promoter can't supply directly power to the local people. They have to get authorized connection from Govt. body. But due to the project activity the supply of power in the area will increase.

Q: Will there be employment generation due to the project activity for youth from the adjoining areas?

A: Responding about the increased possibilities for employment of local youth due to the project activity, it was pointed out that preference would be given for locals in the employment opportunities.

Q: Will it impact the underground water level in the nearby area?

A: No, it will not impact the underground water level of the nearby area.

Also, the project will be listed for global stakeholder commenting and no comments received during the above period.

G.3. CONSIDERATION OF COMMENTS RECEIVED

There were no adverse comments raised by the stakeholders and they were totally in support for setting up of these kinds of projects in the region.

Section H. Approval and authorization

Not Applicable

APPENDIX 1. CONTACT INFORMATION OF PROJECT OWNERS

Project Owner name (as per LON/LOA)	M/s Ventus Energy Consultants
Country	India
Address	5/534, G2, Vaideghi Nagar, Kottivakkam, Thiruvanmiyur, Chennai – 600041
Telephone	+91-9000877756
Fax	-
E-mail	bilateral@ventusindia.com
Website	-
Contact person	Mr. P.Vijayabaskaran

APPENDIX 2. AFFIRMATION REGARDING PUBLIC FUNDING

M/s Ventus Energy Consultants confirms that there would be no divergence of Official Development Assistance (ODA) in any of the project activity. This would be confirmed through undertaking / declaration from the project owner.

APPENDIX 3. APPLICABILITY OF METHODOLOGY(IES)

Refer to section B.6.1.

APPENDIX 4. FURTHER BACKGROUND INFORMATION ON EX ANTE CALCULATION OF EMISSION REDUCTIONS

Refer to section B.6.2.

APPENDIX 5. FURTHER BACKGROUND INFORMATION ON MONITORING PLAN

Refer to section B.7.

APPENDIX 6. SUMMARY REPORT OF COMMENTS RECEIVED FROM LOCAL STAKEHOLDERS

The question raised by the villagers are summarised below:

Q: Will there be free supply of power to the local people?

A: The generated power will be fed in the grid. Project promoter can't supply directly power to the local people. They have to get authorized connection from Govt. body. But due to the project activity the supply of power in the area will increase.

Q: Will there be employment generation due to the project activity for youth from the adjoining areas?

A: Responding about the increased possibilities for employment of local youth due to the project activity, it was pointed out that preference would be given for locals in the employment opportunities.

Q: Will it impact the underground water level in the nearby area?

A: No, it will not impact the underground water level of the nearby area.

Also, the project was listed for global stakeholder commenting and no comments received during the above period

Q: How the Project activity different than Coal based plants?

A: This project will use wind energy to generate electricity and as this is a renewable energy, which does not pollute environment like coal burning does in the form of harmful gases.

Q: In any case, the project operation will affect the fertility of nearby fertile land?

A: It was explained that plant has nothing to do with the fertility of the soil.

Q: Will this wind power plant cause any pollution?

A: It will not discharge any harmful pollutants.

APPENDIX 7. SUMMARY OF DE-REGISTERED CDM PROJECT OR PROJECTS FROM OTHER GHG / NON-GHG PROGRAMS (TYPE B)

Not Applicable as project category is A2.

<i>Complete this form in accordance with the instructions attached at the end of this form.</i>	
Program Name	
Project registration number	
Date of registration in the program	
Title of the Project Activity	
Project de-registration reference number	
Date of de-registration of the Project	
Project Participants <small>(authorized by the host / annex 1 country letter of approval)</small>	
Country where the project is located	
Applied methodology(ies) <small>(provide reference and version number(s))</small>	

Pre-registration changes to the Project Activity (Tick as applicable)	Pre-registration Changes	Reference number	Approved	Provide a summary of pre-registration changes
	Deviations from approved baseline and monitoring methodology		<input type="checkbox"/>	
	Deviations from applied Tool & Guidance		<input type="checkbox"/>	
	Deviations from the rules		<input type="checkbox"/>	
	Other.....		<input type="checkbox"/>	
Post-registration changes to the Project Activity (Tick as applicable)	Post registration Changes	Reference number	Approved	Provide a summary of post-registration changes
	Change in project design		<input type="checkbox"/>	
	Request for revision of monitoring plan		<input type="checkbox"/>	
	Request for change in start date of crediting period		<input type="checkbox"/>	
	Renewal of crediting period		<input type="checkbox"/>	
	Temporary deviations		<input type="checkbox"/>	
	Other.....		<input type="checkbox"/>	

Crediting Period(s)	Crediting period(s)		Period (start & end dates)	ERs as per registered PDD/MR/Project documents	Credits issued
	Crediting Period (shall start on or after 1 Jan 2016)	Fixed 10 year			
Renewable (7 years, with 2 approved renewals)		1 st			
		2 nd			
		3 rd			
Period for which Credits have been issued					
Period for which Credits have been requested but not issued					-
Period for which Credits have never been requested for issuance (no monitoring reports submitted)					-
Period for which Credits have never been requested for issuance prior to CDM de-registration					-
Remaining Crediting period, after de-registration, for which Credits have not been issued by the program, subject to a ceiling of 10 years as allowed under the GCC Program					-

Details of Previous Issuance Requests	Issuance Request	Period (start & end dates)	ERs as per registered PDD	Quantity of Credits requested to be issued	Quantity of Credits issued
	1 st				
	2 nd				
	3 rd				
	4 th				
	5 th				
	Add rows				
	Total				
List any open issues in the Validation and last Verification Report (e.g., FARs, if any) and how they have been addressed					
Any other relevant information that has not been reported in the registered documents and that may have adverse impacts on the environmental integrity of the Project Activity					
Provide the list of all the registered documents related to this project, as available on the programs website and the					

corresponding URLs.	
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Appendix 8. FURTHER INFORMATION ON DETERMINATION OF BUNDLE IN PROJECT ACTIVITY.

The project activity is a homogenous bundle project activity and hence IRR and additionality demonstration has been demonstrated for the combined capacity.

Appendix 9. PUBLIC DECLARATION FOR A2 (Sub Type 2 and 3), B1 & B2 PROJECTS ON NON CONTINUATION FROM CDM/GHG/NON-GHG PROGRAMS.

Not Applicable

DOCUMENT HISTORY

Version	Date	Comment
V 4.0	27/09/2022	<ul style="list-style-type: none"> ▪ Revised version released on approval by Steering Committee as per GCC Program Process; ▪ Revised version contains following changes: <ul style="list-style-type: none"> ○ Introduced A3 type projects A2 project sub-types; ○ Included revised Declaration by the 'Authorized Project Owner and focal point' on GCC requirements; ○ Included modified format for E+/S+/ SDG assessment; ○ Revised instructions for filling in the PSF; ○ Editorial changes to the document.
V 3.2	31/12/2020	<ul style="list-style-type: none"> ▪ The name of GCC Program's emission units has been changed from "Approved Carbon Reductions" or ACRs to "Approved Carbon Credits" or ACCs.
V 3.1	17/08/2020	<ul style="list-style-type: none"> ▪ Editorial revisions made <ul style="list-style-type: none"> ○ Revised Table in section B.7.2 on Monitoring-program of risk management actions ○ Revised Table in section E.1 on Environmental Safeguards ○ Revised Table in section E.1 on Social Safeguards ○ Revised Table in section F on United Nations Sustainable Development Goals (SDG)
V 3.0	05/07/2020	<ul style="list-style-type: none"> ▪ Revised version released on approval by Steering Committee as per GCC Program Process; ▪ Revised version contains following changes: <ul style="list-style-type: none"> ○ Change of name from Global Carbon Trust (GCT) to Global Carbon Council (GCC); ○ Considered and addressed comments raised by Steering Committee: <ul style="list-style-type: none"> ➤ during physical meeting (SCM 01, dated 29 Oct 2019, Doha Qatar); and ➤ electronic consultations EC01-Round 01 (15.09.2019 – 25.09.2019), EC01-Round 02 (27.03.2020 – 27.06.2020). ○ Feedback from Technical Advisory Board (TAB) of ICAO on GCC submission for

		approval under CORSIA ³¹ ;
V 2.0	25/06/2019	<ul style="list-style-type: none"> ▪ Revised version released for approval by the GCC Steering Committee. ▪ Revised version includes additional details and instructions on the information to be provided, consequent to the latest developments world-wide (e.g., CORSIA EUC).
V 1.0	01/11/2016	Initial version released under the GCC Program Version 1

³¹See ICAO recommendation for conditional approval of GCC at https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/Excerpt_TAB_Report_Ian_2020_final.pdf

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