

المجلس العالمي للبصمة الكربونية  
GLOBAL CARBON COUNCIL



**Project  
Submission  
Form**

V4.0- 2022

## CONTENTS

|                          |   |           |
|--------------------------|---|-----------|
| <b><u>SECTION A.</u></b> | <b><u>DESCRIPTION OF THE PROJECT ACTIVITY</u></b>   | <b>14</b> |
| A.1.                     | PURPOSE AND GENERAL DESCRIPTION OF THE PROJECT ACTIVITY   | 14        |
| A.2.                     | LOCATION OF THE PROJECT ACTIVITY  | 16        |
| A.3.                     | TECHNOLOGIES/MEASURES   | 18        |
| A.4.                     | PROJECT OWNER(S)  | 20        |
| A.5.                     | DECLARATION OF INTENDED USE OF APPROVED CARBON CREDITS (ACCs) GENERATED BY THE PROJECT ACTIVITY | 20        |
| A.6.                     | ADDITIONAL REQUIREMENTS FOR CORSIA  | 21        |
| <b><u>SECTION B.</u></b> | <b><u>APPLICATION OF SELECTED METHODOLOGY(IES)</u></b>  | <b>21</b> |
| B.1.                     | REFERENCE TO METHODOLOGY(IES)   | 21        |
| B.2.                     | APPLICABILITY OF METHODOLOGY(IES)   | 21        |
| B.3.                     | PROJECT BOUNDARY, SOURCES AND GREENHOUSE GASES (GHGs)   | 25        |
| B.4.                     | ESTABLISHMENT AND DESCRIPTION OF THE BASELINE SCENARIO  | 26        |
| B.5.                     | DEMONSTRATION OF ADDITIONALITY  | 27        |
| B.6.                     | ESTIMATION OF EMISSION REDUCTIONS   | 38        |
| B.6.1.                   | EXPLANATION OF METHODOLOGICAL CHOICES   | 38        |
| B.6.2.                   | DATA AND PARAMETERS FIXED EX ANTE   | 45        |
| B.6.3.                   | EX-ANTE CALCULATION OF EMISSION REDUCTIONS  | 47        |
| B.6.4.                   | SUMMARY OF EX ANTE ESTIMATES OF EMISSION REDUCTIONS   | 48        |
| B.7.                     | MONITORING PLAN   | 49        |
| B.7.1.                   | DATA AND PARAMETERS TO BE MONITORED   | 49        |
| B.7.2.                   | DATA AND PARAMETERS TO BE MONITORED FOR E+/S+ ASSESSMENTS (NEGATIVE IMPACTS)                    | 58        |
| B.7.3.                   | SAMPLING PLAN   | 59        |
| B.7.4.                   | OTHER ELEMENTS OF THE MONITORING PLAN   | 59        |
| <b><u>SECTION C.</u></b> | <b><u>START DATE, CREDITING PERIOD TYPE AND DURATION</u></b>                                    | <b>61</b> |
| C.1.                     | START DATE OF THE PROJECT ACTIVITY  | 61        |
| C.2.                     | EXPECTED OPERATIONAL LIFETIME OF THE PROJECT ACTIVITY   | 61        |
| C.3.                     | CREDITING PERIOD OF THE PROJECT ACTIVITY  | 61        |
| C.3.1.                   | FIXED CREDITING PERIOD  | 61        |
| C.3.2.                   | DURATION OF THE CREDITING PERIOD  | 61        |
| <b><u>SECTION D.</u></b> | <b><u>ENVIRONMENTAL IMPACTS</u></b>   | <b>61</b> |

|                          |  |                   |
|--------------------------|--|-------------------|
| D.1.                     | ANALYSIS OF ENVIRONMENTAL IMPACTS  | 62                |
| D.2.                     | ENVIRONMENTAL IMPACT ASSESSMENT  | 62                |
| <b><u>SECTION E.</u></b> | <b><u>ENVIRONMENTAL AND SOCIAL SAFEGUARDS</u></b>                            | <b><u>62</u></b>  |
| E.1.                     | ENVIRONMENTAL SAFEGUARDS   | 64                |
| E.2.                     | SOCIAL SAFEGUARDS  | 82                |
| <b><u>SECTION F.</u></b> | <b><u>UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (SDG)</u></b>             | <b><u>91</u></b>  |
| <b><u>SECTION G.</u></b> | <b><u>LOCAL STAKEHOLDER CONSULTATION</u></b>                                 | <b><u>100</u></b> |
| G.1.                     | MODALITIES FOR LOCAL STAKEHOLDER CONSULTATION                                | 100               |
| G.2.                     | SUMMARY OF COMMENTS RECEIVED   | 100               |
| G.3.                     | CONSIDERATION OF COMMENTS RECEIVED   | 100               |
| <b><u>SECTION H.</u></b> | <b><u>APPROVAL AND AUTHORIZATION</u></b>                                     | <b><u>100</u></b> |
| Appendix 1.              | Contact information of project owners  | 101               |
| Appendix 2.              | Affirmation regarding public funding   | 101               |
| Appendix 3.              | Applicability of methodology(ies)  | 101               |
|                          | Please refer section B.2   | 101               |
| Appendix 4.              | Further background information on ex ante calculation of emission reductions | 101               |
| Appendix 5.              | Further background information on monitoring plan                            | 102               |
| Appendix 6.              | Summary report of comments received from local stakeholders                  | 102               |
| Appendix 7.              | Summary of de-registered CDM project (Type B)                                | 102               |
| APPENDIX 8.              | FURTHER INFORMATION ON DETERMINATION OF BUNDLE IN PROJECT ACTIVITY           | 102               |

## COVER PAGE- Project Submission Form (PSF)

*Complete this form in accordance with the instructions attached at the end of this form.*

### BASIC INFORMATION

|   |   |                 |                  |                           |                                       |                                       |
|---|---|-----------------|------------------|---------------------------|---------------------------------------|---------------------------------------|
| <b>Title of the Project Activity as per LON/LOA</b>   | <b>CoreCarbon Renewable Energy Project by Ramoji Group</b>  |                 |                  |                           |                                       |                                       |
| <b>PSF version number</b>   | 02  |                 |                  |                           |                                       |                                       |
| <b>Date of completion / Updating of this form</b>   | 13/12/2022  |                 |                  |                           |                                       |                                       |
| <b>Project Owner(s) as per LON/LOA</b><br><small>(Shall be consistent with De-registered CDM Type B Projects)</small> | <ol style="list-style-type: none"> <li>1. Eenadu Television Private Limited</li> <li>2. Ushodaya Enterprises Private Limited</li> </ol> |                 |                  |                           |                                       |                                       |
| <b>Country where the Project Activity is located</b>  | India   |                 |                  |                           |                                       |                                       |
| <b>GPS coordinates of the project site(s)</b>   | Sub-Project 1:  |                 |                  |                           |                                       |                                       |
|   | <b>Name of the WTG</b>  | <b>Latitude</b> | <b>Longitude</b> | <b>Latitude (Decimal)</b> | <b>Longitude (Decimal)</b>            | <b>Location</b>                       |
|   | BLG 050   | 14°45' 05.0" N  | 77°07'22.9" E    | 14.75138889 N             | 77.12302778 E                         | Beluguppa, Ananthapur, Andhra Pradesh |
|   | BLG 072   | 14°44' 10.1" N  | 77°11'23.3" E    | 14.73613889 N             | 77.18980556 E                         | Beluguppa, Ananthapur, Andhra Pradesh |
| BLG 053   | 14°53' 27.7" N  | 77°18'49.6" E   | 14.89102778 N    | 77.31377778 E             | Beluguppa, Ananthapur, Andhra Pradesh |                                       |

Project Submission Form

|  |                                |                      |                  |                               |                                |   |
|--|--------------------------------|----------------------|------------------|-------------------------------|--------------------------------|---|
|  | BLG<br>056                     | 14°54'<br>16.3" N    | 77°18'44.8"<br>E | 14.90452778<br>N              | 77.31244444<br>E               | Beluguppa,<br>Ananthapur,<br>Andhra<br>Pradesh              |
|  | BLG<br>057                     | 14°54'<br>35.7" N    | 77°18'36.6"<br>E | 14.90991667<br>N              | 77.31016667<br>E               | Beluguppa,<br>Ananthapur,<br>Andhra<br>Pradesh              |
|  | VAJ<br>003                     | 14°<br>53'46.5"<br>N | 77°19'31.1"<br>E | 14.89625000<br>N              | 77.32530556<br>E               | Vajrakarur,<br>Ananthapur,<br>Andhra<br>Pradesh             |
|  | Sub-Project 2:                 |                      |                  |                               |                                |   |
|  | <b>Name<br/>of the<br/>WTG</b> | <b>Latitude</b>      | <b>Longitude</b> | <b>Latitude<br/>(Decimal)</b> | <b>Longitude<br/>(Decimal)</b> | <b>Location</b>   |
|  | BLG<br>049                     | 14°45'<br>05.0" N    | 77°07'22.9"<br>E | 14.75138889<br>N              | 77.12302778<br>E               | Beluguppa,<br>Ananthapur<br>District,<br>Andhra<br>Pradesh  |
|  | BLG<br>164                     | 14°44'<br>10.1" N    | 77°11'23.3"<br>E | 14.73613889<br>N              | 77.18980556<br>E               | Beluguppa,<br>Ananthapur<br>District,<br>Andhra<br>Pradesh  |
|  | VAJ<br>008                     | 14°53'<br>27.7" N    | 77°18'49.6"<br>E | 14.89102778<br>N              | 77.31377778<br>E               | Vajrakarur,<br>Ananthapur<br>District,<br>Andhra<br>Pradesh |
|  | VAJ<br>010                     | 14°54'<br>16.3" N    | 77°18'44.8"<br>E | 14.90452778<br>N              | 77.31244444<br>E               | Vajrakarur,<br>Ananthapur<br>District,<br>Andhra<br>Pradesh |
|  | VAJ<br>011                     | 14°54'<br>35.7" N    | 77°18'36.6"<br>E | 14.90991667<br>N              | 77.31016667<br>E               | Vajrakarur,<br>Ananthapur<br>District,<br>Andhra<br>Pradesh |

Project Submission Form

|   |  |                      |                  |                  |                  |   |
|---|--|----------------------|------------------|------------------|------------------|---|
|   | VAJ 020  | 14°<br>53'46.5"<br>N | 77°19'31.1"<br>E | 14.89625000<br>N | 77.32530556<br>E | Vajrakarur,<br>Ananthapur<br>District,<br>Andhra<br>Pradesh |
|   | VAJ 021  | 14°53'<br>37.6" N    | 77°19'<br>41.4"E | 14.89377778<br>N | 77.32816667<br>E | Vajrakarur,<br>Ananthapur<br>District,<br>Andhra<br>Pradesh |
| <b>Eligible GCC Project Type as per the Project Standard</b><br><small>(Tick applicable project type)</small> | <input checked="" type="checkbox"/> <b>Type A:</b><br><input type="checkbox"/> Type A1<br><input checked="" type="checkbox"/> Type A2<br><input checked="" type="checkbox"/> Sub-Type 1<br><input type="checkbox"/> Sub-Type 2<br><input type="checkbox"/> Sub-Type 3<br><input type="checkbox"/> Sub-Type 4<br><input type="checkbox"/> Type A3<br><br><input type="checkbox"/> <b>Type B – De-registered CDM Projects:<sup>1</sup></b><br><input type="checkbox"/> Type B1<br><input type="checkbox"/> Type B2   |                      |                  |                  |                  |   |
| <b>Minimum compliance requirements</b>  | <input checked="" type="checkbox"/> Real and Measurable GHG Reductions<br><input checked="" type="checkbox"/> National Sustainable Development Criteria (if any)<br><input checked="" type="checkbox"/> Apply credible baseline and monitoring methodologies<br><input checked="" type="checkbox"/> Additionality<br><input checked="" type="checkbox"/> Local Stakeholder Consultation Process<br><input checked="" type="checkbox"/> Global Stakeholder Consultation Process<br><input checked="" type="checkbox"/> No GHG Double Counting<br><input checked="" type="checkbox"/> Contributes to United Nations Sustainable Development Goal 13 (Climate Action) |                      |                  |                  |                  |   |
| <b>Choose optional and additional requirements</b><br><small>(Tick applicable label categories)</small>       | <input checked="" type="checkbox"/> Do-no-net-harm Safeguards to address Environmental Impacts<br><input checked="" type="checkbox"/> Do-no-net-harm Safeguards to address Social Impacts<br><input checked="" type="checkbox"/> Contributes to United Nations Sustainable Development Goals (in addition to Goal 13)  |                      |                  |                  |                  |   |

<sup>1</sup> Owners of Type B projects shall fill in the form provided in Appendix 7.

Project Submission Form

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|   |  |
|---|--|
| <b>Applied methodologies including version No.</b><br><br>(Shall be approved by the GCC or the CDM) | CDM approved consolidated Methodology - ACM0002 (Version 20.0) - Grid-connected electricity generation from renewable sources. |
| <b>GHG Sectoral scope(s) linked to the applied methodology(ies)</b>                                 | GHG-SS #1 Energy (renewable/non-renewable sources)   |

| <b>Applicable Rules and Requirements for Project Owners</b><br>(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 <sup>2</sup>                                     | <input checked="" type="checkbox"/> Project Standard                                       | 3.1  |
|   | <input type="checkbox"/> Approved GCC Methodology (XXXXX)                                  |  |
|   | <input checked="" type="checkbox"/> Program Definitions                                    | 3.1  |
|   | <input checked="" type="checkbox"/> Environment and Social Safeguards Standard             | 3.0  |
|   | <input checked="" type="checkbox"/> Project Sustainability Standard                        | 3.0  |
|   | <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 <sup>3</sup>                                 | <input checked="" type="checkbox"/> Approved CDM Methodology (ACM0002) |
| <input type="checkbox"/> TOOL 1- Tool for the demonstration and assessment of additionality                     |  |  |
| <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 factor                              |  | 07.0   |

<sup>2</sup> GCC Program rules and requirements: <http://www.globalcarboncouncil.com/resource-centre/>

<sup>3</sup> CDM Program rules: <https://cdm.unfccc.int/Reference/index.html>



Project Submission Form

|  |  |  |      |
|--|--|--|------|
|  |  | 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                                   | 11.0 |
|  |  | <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><b>Choose Third Party Project Verification by approved GCC Verifiers<sup>4</sup></b></p> <p>(Tick applicable verification categories)</p> | <input checked="" type="checkbox"/> GHG emission reductions (i.e., Approved Carbon Credits <b>(ACCs)</b> ) |  |      |
|  | <input checked="" type="checkbox"/> Environmental No-net-harm Label <b>(E<sup>+</sup>)</b>                 |  |      |
| <p><b>Declaration by the</b></p>   | <input checked="" type="checkbox"/> Social No-net-harm Label <b>(S<sup>+</sup>)</b>                        |  |      |
|  | <input checked="" type="checkbox"/> United Nations Sustainable Development Goals <b>(SDG<sup>+</sup>)</b>  |  |      |
|  | <input type="checkbox"/> Bronze SDG Label  |  |      |
|  | <input type="checkbox"/> Silver SDG Label  |  |      |
|  | <input type="checkbox"/> Gold SDG Label  |  |      |
|  | <input checked="" type="checkbox"/> Platinum SDG Label   |  |      |
|  | <input type="checkbox"/> Diamond SDG Label   |  |      |
|  | <input checked="" type="checkbox"/> CORSIA requirements <b>(C<sup>+</sup>)</b>                             |  |      |
|  | <input type="checkbox"/> Host Country Attestation on Double counting                                       |  |      |
|  | The Project Owner(s) declares that:  |  |      |

<sup>4</sup> **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><b>‘Authorized Project Owner<sup>5</sup> and focal point’</b></p> <p>(Tick all applicable statements<sup>6</sup>)</p> | <p><b>Generic Requirements applicable to all Project Types:</b></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-GHG<sup>7</sup> 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 nature<sup>8</sup> 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><b>Specific requirements applicable to respective Project Types:</b></p> <p><b><u>For Project Type A1:</u></b></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> <p><b><u>For Project Type A2 (Sub-Type 1):</u></b></p> <p><input checked="" type="checkbox"/> For Project Type A2 Sub-Type 1, we confirm that the Project Activity is NOT</p> |
|--|---|

<sup>5</sup> The Project Owner means the legal entity or organization that has overall control and responsibility for the Project Activity

<sup>6</sup> **Consequences in case of Non-compliance with declaration statements:**

If at any point in 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.

<sup>7</sup> Non-GHG programs could be such as I-REC facilitating reliable energy claims with Renewable Energy Certificate (REC) schemes

<sup>8</sup> The environmental attributes of compensating nature are those which are used by captive users (e.g., corporates/industries) for offsetting their GHG emissions

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.

**For Project Type A2 (Sub-Type 2 or Sub-Type 3):**

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):

- Submit a proof for deregistration from CDM; or
- 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.
- 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).

**For Project Type A2 (Sub-Type 4):**

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):

- Submit the proof for exclusion of CPA(s) from registered CDM-POA prior to the date of initial submission to the GCC Program; or
- 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.

**For Project Type A3:**

- 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.

**For Project Type B1 or B2:**

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):

- Submit a proof for deregistration from CDM; or
- 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><b>Requirements to avoid double counting:</b></p> <p>We intend to submit or have submitted a written attestation<sup>9</sup> (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 stages<sup>10</sup> (tick at least one of the three options):</p> <p><input type="checkbox"/> The initial submission for GSC; or</p> <p><input type="checkbox"/> Along with the submission for a request for registration (after Project Verification is completed); or</p> <p><input checked="" type="checkbox"/> Along with the submission for a request for the first or subsequent issuance of ACCs.</p> <p><b>Project specific requirements:</b></p> <p><b><u>CORSIA specific requirements:</u></b></p> <p><input checked="" 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 Units<sup>11</sup> 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 state<sup>12</sup>.</p> <p>Provide details (if any) below for the boxes ticked above:</p> <hr/> <p>The Project Owner(s) declares that:</p> <p><input checked="" type="checkbox"/> All 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> |
|--|--|

<sup>9</sup> In case of any change of Host Country Letter of Authorisation (HCLOA) the project owner shall inform the GCC operations team immediately

<sup>10</sup> 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.

<sup>11</sup> CORSIA Eligible Emissions Units containing approval and conditions for GCC Program: <https://www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-Emissions-Units.aspx>

<sup>12</sup> The list of UN member states countries can be found at <https://www.un.org/en/about-us/member-states>

Project Submission Form

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|  |   |
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|  | <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.<br><br>Provide details below for the boxes ticked above |
| <b>Appendixes 1-9</b>  | Details about the Project Activity are provided in Appendixes 1 through 9 to this document.   |
| <b>Name, designation, date and signature of the Focal point (as per LON/LOA)</b> | For Eenadu Television Private Limited<br><br>Name:K Bapineedu Choudary<br>Designation:Chief Executive Officer<br>Date, Place: 09th December,2022, Hyderabad   |
|  | For Ushodaya Enterprises Private Limited<br><br>Name: G Srinivas<br>Designation:Chief Financial Officer and Company Secretary<br>Date, Place: 09th December,2022, Hyderabad   |
|  | For Core CarbonX Solutions Private Limited<br><br>Name: Niroj Kumar Mohanty<br>Designation: Managing Director<br>Date, Place: 09th December,2022, Hyderabad   |

## 1. PROJECT SUBMISSION FORM

### Section A. Description of the Project Activity

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

The project activity “**CoreCarbon Renewable Energy Project by Ramoji Group**” (project) involves the installation of the following projects.

| S. No.        | Project Capacity | Project Type | Project implementer                         |
|---------------|------------------|--------------|---|
| Sub-Project 1 | 12.6 MW          | Wind         | Ushodaya Enterprises Private Limited (UEPL) |
| Sub-Project 2 | 14.7 MW          | Wind         | Eenadu Television Private Limited (ETPL)    |

The sub-project 1 is a grid-connected wind power project being implemented by UEPL, involves the installation of 12.6 MW Wind Power Project consisting of Wind Turbine Generators (WTGs) with the capacity of (6\*2.1 MW) which are supplied by Suzlon. The project is located in Belugappa and Vajrakarur villages of Ananthapur District of Andhra Pradesh.

The sub-project 2 is a grid-connected wind power project being implemented by ETPL, involves the installation of 14.7 MW Wind Power Project consisting of Wind Turbine Generators (WTGs) with the capacity of (7\*2.1 MW) which are supplied by Suzlon. The project is located in Belugappa and Vajrakarur villages of Ananthapur District of Andhra Pradesh.

The objective of the project activity is to generate renewable electricity using wind energy and supply of the electricity generated to the National Electricity Grid of India. The electricity generated by the project activity will thus replace the equivalent amount of electricity generated by the operation of existing/ grid connected power plants and by addition of new generation sources into the grid.

**Table 1 Plant Details and commissioning dates of WTG**

| No      | Name of the developer                | Capacity (MW) | Date of commissioning |                       | Purpose         | Grid          | State          |
|---------|--------------------------------------|---------------|-----------------------|-----------------------|-----------------|---------------|----------------|
| 1       | Ushodaya Enterprises Private Limited | 12.6          | WTG ID                | Date of Commissioning | Sale to DISCOM. | National Grid | Andhra Pradesh |
|         |                                      |               | BLG 050               | 27/03/2016            |                 |               |                |
|         |                                      |               | BLG 072               | 24/03/2016            |                 |               |                |
|         |                                      |               | BLG 053               | 10/03/2017            |                 |               |                |
|         |                                      |               | BLG 056               | 10/03/2017            |                 |               |                |
|         |                                      |               | BLG 057               | 10/03/2017            |                 |               |                |
|         |                                      |               | VAJ 003               | 29/03/2017            |                 |               |                |
| BLG 050 | 27/03/2016                           |               |                       |                       |                 |               |                |

|   |                                   |      |         |                       |                 |               |                |
|---|-----------------------------------|------|---------|-----------------------|-----------------|---------------|----------------|
| 2 | Eenadu Television Private Limited | 14.7 | WTG ID  | Date of Commissioning | Sale to DISCOM. | National Grid | Andhra Pradesh |
|   |                                   |      | BLG 049 | 27/03/2016            |                 |               |                |
|   |                                   |      | BLG 164 | 25/03/2017            |                 |               |                |
|   |                                   |      | VAJ 008 | 28/03/2017            |                 |               |                |
|   |                                   |      | VAJ 010 | 28/03/2017            |                 |               |                |
|   |                                   |      | VAJ 011 | 28/03/2017            |                 |               |                |
|   |                                   |      | VAJ 020 | 28/03/2017            |                 |               |                |
|   |                                   |      | VAJ 021 | 28/03/2017            |                 |               |                |

As per ACM0002 Version 20.0, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: "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". Thus, the baseline scenario for the project activity is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources.

The project activity thus reduces the anthropogenic emissions of greenhouse gases (GHGs) into the atmosphere associated with the equivalent amount of electricity generation from the existing grid connected power plants and by addition of new generation sources into the grid. The specific goals of the project are to:

- Reduce greenhouse gas emissions in India compared to the business-as-usual scenario;
- Help to stimulate the growth of the wind power industry in India;
- Contribute to economic development by creating local employment during the construction and the operation phases of the wind farm;
- Reduce emissions of other pollutants resulting from power generation in India, compared to a business-as-usual scenario;
- Diversify the electricity generation mix of India;
- Contribution to sustainable development through supporting local community and local economy.

The crediting period is chosen for this project activity is fixed crediting period of 10 years. The annual average net electricity from the project activity is 71,481 MWh and results in annual average GHG emission reductions of 66,513 tCO<sub>2</sub>e/ annum. Project activity will mitigate the total GHG emission reductions of 665,130 tCO<sub>2</sub>e over the entire crediting period.

#### **Project's contribution to the Sustainable Development:**

Ministry of Environment, Forests and Climate Change, Govt. of India has stipulated the social well-being, economic well-being, environmental well-being and technological well-being as the four indicators for sustainable development in the host country approval eligibility criteria for Clean Development Mechanism (CDM) projects.

The project activity contributions to the sustainable development of the local area as well as the host country are as follows:

**Environmental well-being:**

- The project activity will replace energy generated from fossil fuels and reduces the emissions of greenhouse gases (GHGs) and other gases like SO<sub>x</sub>, NO<sub>x</sub> and particulate matter.

**Economic well-being:**

- Implementation of the project activity will result in employment opportunities for people involved with installation of RE Technologies.
- The implementation of the project activity will also help in reducing demand-supply gap of electricity in the country.

**Social well-being:**

- The project activity involves generation of clean power without emitting GHGs into atmosphere. This reduces the adverse impact of GHG emissions leading to cleaner environment.
- The project activity will create the employment opportunities for the local people during the installation of the renewable energy.

**Technological well-being:**

- The project activity will use environment friendly, inexhaustible and clean wind technology to generate power i.e., Wind energy technologies.

**A.2. Location of the Project Activity**

**Sub-Project-1: 12.6 MW Wind Power Project by UEPL**

The project activity has 6 WTGs with the capacity of 6\* 2.1 MW and each WTG latitude and longitude mentioned in the below table.

| Name of the WTG | Date of commissioning | Latitude       | Longitude     | Latitude (Decimal) | Longitude (Decimal) | Location                              |
|-----------------|-----------------------|----------------|---------------|--------------------|---------------------|---------------------------------------|
| BLG 050         | 27-03-2016            | 14°45' 05.0" N | 77°07'22.9" E | 14.75138889 N      | 77.12302778 E       | Beluguppa, Ananthapur, Andhra Pradesh |
| BLG 072         | 24-03-2016            | 14°44' 10.1" N | 77°11'23.3" E | 14.73613889 N      | 77.18980556 E       | Beluguppa, Ananthapur, Andhra Pradesh |
| BLG 053         | 10-03-2017            | 14°53' 27.7" N | 77°18'49.6" E | 14.89102778 N      | 77.31377778 E       | Beluguppa, Ananthapur,                |



Project Submission Form

|         |            |                |               |               |               |  |
|---------|------------|----------------|---------------|---------------|---------------|--|
|         |            |                |               |               |               | Andhra Pradesh                         |
| BLG 056 | 10-03-2017 | 14°54' 16.3" N | 77°18'44.8" E | 14.90452778 N | 77.31244444 E | Beluguppa, Ananthapur, Andhra Pradesh  |
| BLG 057 | 10-03-2017 | 14°54' 35.7" N | 77°18'36.6" E | 14.90991667 N | 77.31016667 E | Beluguppa, Ananthapur, Andhra Pradesh  |
| VAJ 003 | 29-03-2017 | 14° 53'46.5" N | 77°19'31.1" E | 14.89625000 N | 77.32530556 E | Vajrakarur, Ananthapur, Andhra Pradesh |

**Sub-Project-2: 14.7 MW Wind Power Project by ETPL**

The project activity has 7 WTGs with the capacity of 7 \* 2.1 MW and each WTG latitude and longitude mentioned in the below table.

| Name of the WTG | Date of commissioning | Latitude       | Longitude     | Latitude (Decimal) | Longitude (Decimal) | Location  |
|-----------------|-----------------------|----------------|---------------|--------------------|---------------------|---|
| BLG 049         | 27/03/2016            | 14°45' 05.0" N | 77°07'22.9" E | 14.75138889 N      | 77.12302778 E       | Beluguppa, Ananthapur District, Andhra Pradesh  |
| BLG 164         | 25/03/2017            | 14°44' 10.1" N | 77°11'23.3" E | 14.73613889 N      | 77.18980556 E       | Beluguppa, Ananthapur District, Andhra Pradesh  |
| VAJ 008         | 28/03/2017            | 14°53' 27.7" N | 77°18'49.6" E | 14.89102778 N      | 77.31377778 E       | Vajrakarur, Ananthapur District, Andhra Pradesh |
| VAJ 010         | 28/03/2017            | 14°54' 16.3" N | 77°18'44.8" E | 14.90452778 N      | 77.31244444 E       | Vajrakarur, Ananthapur District, Andhra Pradesh |
| VAJ 011         | 28/03/2017            | 14°54' 35.7" N | 77°18'36.6" E | 14.90991667 N      | 77.31016667 E       | Vajrakarur, Ananthapur                          |

|         |            |                |               |               |               |   |
|---------|------------|----------------|---------------|---------------|---------------|---|
|         |            |                |               |               |               | District, Andhra Pradesh                        |
| VAJ 020 | 28/03/2017 | 14° 53'46.5" N | 77°19'31.1" E | 14.89625000 N | 77.32530556 E | Vajrakarur, Ananthapur District, Andhra Pradesh |
| VAJ 021 | 28/03/2017 | 14°53' 37.6" N | 77°19' 41.4"E | 14.89377778 N | 77.32816667 E | Vajrakarur, Ananthapur District, Andhra Pradesh |

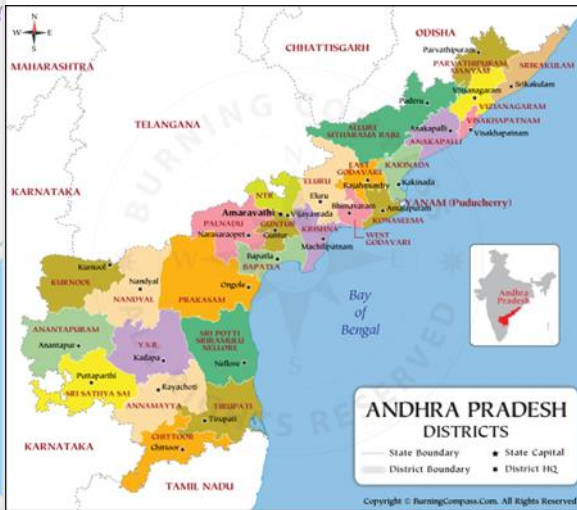


Figure 1: Project Location

Figure 2: WTG Locations: Ananthapur, Andhra Pradesh, India

### A.3. Technologies/measures

The project activity is a 27.3 MW Greenfield Renewable Power Project consisting of 2 sub projects. The sub-project 1 and sub-project 2 consist of Wind Turbine Generators (WTG's) capacity of 6\*2.1 MW and 7\*2.1 MW respectively which totals to 27.3 MW which are supplied by Suzlon.

In wind energy generation, kinetic energy of wind is converted into mechanical energy and subsequently into electrical energy. Wind blowing at high speeds contains sufficient amount of kinetic energy. When this kinetic energy passes through the blades of the wind turbines, it is converted into mechanical energy and rotates the wind blades. When the wind blades rotate, the connected generator also rotates, thereby producing electricity. Since the project utilizes wind

energy, which is a renewable resource, to generate power, the project does not lead to GHG emissions into the atmosphere which makes it a clean technology. In the absence of the project activity, the equivalent amount of electricity would have been generated in the fossil fuel dominated southern regional grid. The average lifetime of the equipment is expected to be 25 years. The expected PLF for the project activity is 29.89% over the lifetime of the equipment. Power required in moving the wind turbine is available from the kinetic energy of the mass of air moving in the wind. As wind affects the blades of the rotor of a wind turbine, the rotor starts rotating due to the “principle of lift” just like as aircraft wings. In most common wind turbine types, the rotational momentum of the rotor is being transmitted to a main shaft. A gear box increases number of revolutions per minute (rpm) and the high-speed shaft are moving the generator unit thus producing energy.

### Technical detail of the Project Activity

#### Technical Details of Sub-project 1 and Sub-project 2

|                         |                              |  |  |
|-------------------------|------------------------------|--|--|
| General Information (I) | Name of sub project          | Sub-project 1  | Sub-project 2  |
| (II)                    | Name of the company/Licensee | Ushodaya Enterprises Private Limited (UEPL)                          | Eenadu Television Private Limited (ETPL)                             |
| (III)                   | Plant Location               | Ananthapur, District Beluguppa and Vajrakarur, Andhra Pradesh, India | Ananthapur, District Beluguppa and Vajrakarur, Andhra Pradesh, India |
| (IV)                    | Type of Generation Facility  | Wind Power   | Wind Power   |

#### (A) Wind Farm Capacity & Configuration

|       |   |                                  |                                  |
|-------|---|----------------------------------|----------------------------------|
| (I)   | Wind Turbine Type, Make & model           | SEL/2100 (S95) and (S111) Suzlon | SEL/2100 (S95) and (S111) Suzlon |
| (II)  | Installed Capacity of Wind Farm (MW)      | 12.6 MW                          | 14.7 MW                          |
| (III) | Wind Turbine Units/Size of each Unit (KW) | 6 * 2100 KW                      | 7 * 2100 KW                      |

#### (B) WTG Specifications

| <b>Turbine Model</b> | <b>S95</b>  | <b>S111</b>   |
|----------------------|---|---|
| Rated Power          | 2100 kW   | 2100 kW   |
| Rotor Diameter       | 95 m  | 111.8 m   |
| Hub Height           | 90 m  | 90 m  |
| Turbine Type         | Direct driven, horizontal axis wind turbine with variable rotor speed | Direct driven, horizontal axis wind turbine with variable rotor speed |
| Power Generation     | Independent pitch system for each blade                               | Independent pitch system for each blade                               |
| Cut in Wind speed    | 3.5 m/s   | 3.0 m/s   |

|                        |   |   |
|------------------------|---|---|
| Rated wind speed       | 11 m/s  | 10 m/s  |
| Cut out wind speed     | 20 m/s  | 21 m/s  |
| Rated Rotational Speed | 17.7 rpm  | 17.7 rpm  |
| No. of Blades          | 3   | 3   |
| Blade Material         | Fiber Glass Epoxy   | Fiber Glass Epoxy, SB54   |
| Gear box Type          | 3 Stages, (1 planetary, 2 Helical)  | 3 Stages, (1 planetary, 2 Helical)  |
| Generator Type         | Asynchronous 3 phase induction generator with slip rings, variable rotor resistance with Suzlon flexi slip control system | Asynchronous 3 phase induction generator with slip rings, variable rotor resistance with Suzlon flexi slip control system |
| Braking                | Aerodynamic   | Aerodynamic   |
| Output Voltage         | 690/600 V   | 690/600 V   |
| Yaw System             | Electric motor with brake, gear box and pinion  | Electric motor with brake, gear box and pinion  |

**Technical details of grid connection**

The wind park is connected to the national grid by a double circuit 132kV line from the Plant to the Grid Substation.

**A.4. Project Owner(s)**

| Location/<br>Country | Project Owner(s)                     | Where applicable <sup>13</sup> , indicate if the host country has provided approval (Yes/No) |
|----------------------|--------------------------------------|--|
| India                | Eenadu Television Private Limited    | Not Applicable   |
|                      | Ushodaya Enterprises Private Limited |  |

**A.5. Declaration of intended use of Approved Carbon Credits (ACCs) generated by the Project Activity**

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         |   |   |
| 24/03/2016 | 23/03/2026 | 1. Eenadu Television Private Limited<br><br>2. Ushodaya Enterprises Private Limited | 66,513 tCO <sub>2</sub> e/year              |

<sup>13</sup> 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).

The project proponent confirms that ACCs generated from the project activity will not be double counted in any other GHG emission reduction mechanism (i.e., CDM, VCS or GS, etc.)

#### **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)**

Methodology: ACM0002

Methodology: Large-scale Consolidated methodology: grid-connected electricity generation from renewable sources

<https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG>

Version: Version 20.0

Sectoral scope: 01

EB 105

#### **Tools used:**

Tool for the demonstration and assessment of additionality, Version 07.0.0, EB 70, Annex 8

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

Tool to calculate the emission factor for an electricity system, Version 07.0, EB 100, Annex 4

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

Tool 24 -Common practice, Version 03.1, EB 84, Annex 7

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

Tool 27 - Investment analysis, Version 11.0, EB 112, Annex 02

<https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v11.0.pdf>

#### **B.2. Applicability of methodology(ies)**

The Project uses the following approved methodology

Type-1: Renewable Energy Projects

Category: ACM0002

Title: Grid-connected electricity generation from 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.

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:

| # | Applicability criterion as per ACM0002 Version 20.0   | Applicability to this project activity   |
|---|---|--|
| 1 | <p>This methodology is applicable to grid-connected renewable power generation project activities that</p> <ul style="list-style-type: none"> <li>(a) Install a Greenfield power plant;</li> <li>(b) Involve a capacity addition to (an) existing plant(s);</li> <li>(c) Involve a retrofit of (an) existing operating plants/units;</li> <li>(d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or</li> <li>(e) Involve a replacement of (an) existing plant(s)/unit(s).</li> </ul>   | <p>The project activity is involved installation of new grid connected renewable power generation where no renewable power plant was operated prior to the implementation of the project activity.</p>                         |
| 2 | <p>The methodology is applicable under the following conditions:</p> <ul style="list-style-type: none"> <li>a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;</li> </ul> <p>In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the parameter <math>EG_{P,J,y}</math>): the existing plant 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 or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity;</p> | <p>The project activity is a grid connected renewable energy generation plant from the WTGs.</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:</p> <p>One of the following conditions must apply:</p> <ul style="list-style-type: none"> <li>- The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of reservoirs; or</li> <li>- The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of reservoirs is increased and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m<sup>2</sup>; or</li> </ul>  | <p>The project activity doesn't involve the installation of hydro power plants. Thus, this condition is not applicable for the project activity</p>  |

|   |   |  |
|---|---|--|
|   | The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per the definitions given in the Project Emissions section, is greater than 4 W/m <sup>2</sup> .  |  |
| 4 | <p>In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4 W/m<sup>2</sup> all the following conditions must apply:</p> <ul style="list-style-type: none"> <li>- The power density calculated for the entire project activity using equation 8 is greater than 4 W/m<sup>2</sup>;</li> <li>- Water flow between multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity;</li> <li>- Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m<sup>2</sup> shall be: <ul style="list-style-type: none"> <li>a. Lower than or equal to 15 MW; and</li> <li>b. Less than 10 per cent of the total installed capacity of integrated hydro power project.</li> </ul> </li> </ul>  | The project activity doesn't involve the installation of hydro power plants. Thus, this condition is not applicable for the project activity                                   |
| 5 | <p>In the case of integrated hydro power projects, project proponent shall:</p> <p>(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</p> <p>(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> | The project activity doesn't involve the installation of hydro power plants. Thus, this condition is not applicable for the project activity                                   |
| 6 | <p><b>Methodology is not applicable to the following</b></p> <ul style="list-style-type: none"> <li>- 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;</li> <li>- Biomass fired power plants.</li> </ul>  | The project activity doesn't involve switching from the fossil fuel to renewable energy. The project activity also doesn't involve installation of biomass fired power plants. |
| 7 | In the case of retrofits, replacements, or capacity   | The project activity is a new  |

|  |   |  |
|--|---|--|
|  | <p>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>grid connected renewable power plant and not a retrofits, replacement or capacity additions Hence this condition is not applicable.</p> |
|--|---|--|

| Applicability Conditions  | Justification of eligibility   |
|---|--|
| <p><b>Tool 07: Tool to calculate the emission factor for an electricity system (Version 07.0)</b></p>   |  |
| <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 of applicable, OM, BM and CM are estimated using this tool (under section B.6.1) for calculating of the baseline emission.</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, two sub-options under the step 2 of the tool are available to the project participants, i.e., option II a and option IIb. If option II a is chosen, the conditions specified in “Appendix 1: 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, the condition is applicable and emission factor has been calculated accordingly.</p>            |
| <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.</p>  | <p>The project activity is located in India, a Non-Annex I country. Therefore, this condition is not applicable to the project activity</p>      |
| <p>Under this tool, the value applied to the CO2 emission factor of biofuels is zero.</p>   | <p>The project activity is a green field wind power plant and hence the condition of biofuel emission factor is not applicable.</p>              |

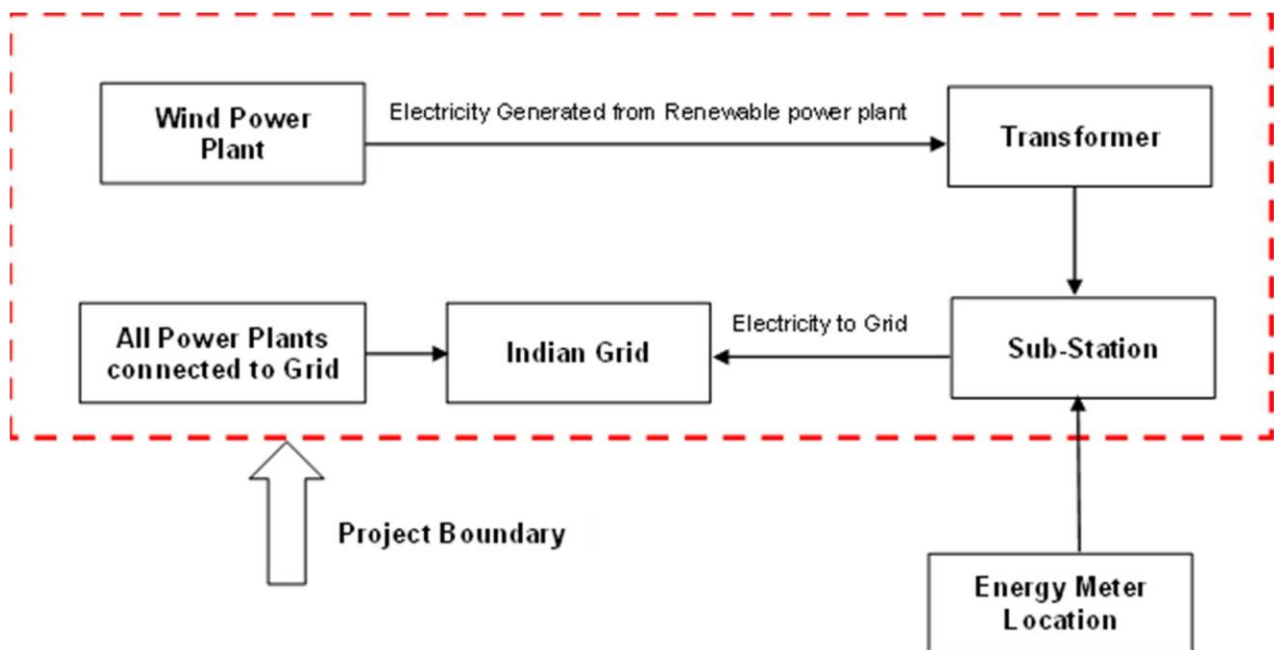
This comparison shows clearly that ACM0002 is applicable to the project activity.



1. Compliance to applicability conditions of Methodological Tool “Tool for the demonstration and assessment of additionality - Version 7.0.0 is demonstrated in section B.5
2. Compliance to applicability conditions of Methodological Tool Investment analysis - Version 11.0 is demonstrated in section B.5

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

The project spatial extend is the project power plant and all power plants connected physically to the electricity system in accordance of “Tool to calculate the emission factor for an electricity system”, which is the National Electricity Grid. As the project activity is connected to the India National Grid, it is preferred to take the National grid as project boundary than the state boundary. It also minimizes the effect of interstate power transactions, which are dynamic and vary widely.



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         | Electricity generation in fossil fuel fired power plants that are displaced due to the project activity  | CO <sub>2</sub>  | Yes       | The project activity will displace the equivalent amount of electricity that in the absence of the project activity would have been generated in the fossil fuel dominated regional grid of India. Hence, the emission source is included. |
|                  |  | CH <sub>4</sub>  | No        | Minor emission source  |
|                  |  | N <sub>2</sub> O | No        | Minor emission source  |
| Project Activity | Grid connected wind power-based electricity generation because of implementation of the project activity | CO <sub>2</sub>  | No        | Electricity generation from renewable power project involving wind does not incur any emission   |
|                  |  | CH <sub>4</sub>  | No        | Electricity generation from renewable power project involving wind does not incur any emission   |
|                  |  | N <sub>2</sub> O | No        | Electricity generation from renewable power project involving wind does not incur any emission   |

#### B.4. Establishment and description of the baseline scenario

As per ACM0002 Version 20.0, if the project activity is the installation of a new grid-connected wind renewable power plant/unit, the baseline scenario is the following:

- *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 07: Tool to calculate the emission factor for an electricity system”.*

Thus, the baseline for the project activity is the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.

The 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).

Combined margin emission factor for the national grid is calculated from the Central Electricity Authority (CEA) CO<sub>2</sub> database for the Indian Grid, which is published on October 2021.

Calculations for this combined margin must be based on data from an official source (where available) and made publicly available. The CEA database version 16 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  |
|-------------|---------------------------------|---|---|
| EFgrid,CM,y | 0.9305<br>tCO <sub>2</sub> /MWh | Combined margin CO <sub>2</sub> emission factor for the project electricity system in year y  | Calculated as the weighted average of the operating margin (0.25) & build margin (0.75) values, sourced from Baseline CO <sub>2</sub> Emission Database, Version 17.0, October - 21 published by Central Electricity Authority (CEA), Government of India |
| EFgrid,OM,y | 0.9522<br>tCO <sub>2</sub> /MWh | Operating margin CO <sub>2</sub> emission factor for the project electricity system in year y | Calculated as the last 3-year (2018-19, 2019-20, 2020-21) generation weighted average, sourced from Baseline CO <sub>2</sub> Emission Database, Version 17.0, October -21 published by Central Electricity Authority (CEA), Government of India           |
| EFgrid,BM,y | 0.8653<br>tCO <sub>2</sub> /MWh | Build margin CO <sub>2</sub> emission factor for the project electricity system in year y     | Baseline CO <sub>2</sub> Emission Database, Version 17.0, October -21 published by Central Electricity Authority (CEA), Government of India.  |

During the implementation of the project activity, the relevant national and/or sectoral policies, regulations and circumstances are taken into account.

- Implementation of wind-based 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 wind energy) in power sector, 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 (MoEFCC), Government of India and are exempted from Environmental Impact Assessment (EIA)

### B.5. Demonstration of additionality

As per sections 6.4.8 paragraph 45 of the GCC project standard version 3.1, the additionality of the GCC project shall be assessed based on two components.

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

#### Legal Requirement Test

As per paragraph 46 of the GCC project standard version 3.1, the project activity is additional as establishment of WTGs in India is not enforced by law, regulations or any legally binding mandates. Since voluntary commitments/agreements within a sector or by an entity do not constitute the legal requirement, project is additional as per paragraph 46 of the Project Standard.

### Additionality Tests

|  |   |
|--|---|
| <p>Project Owners shall demonstrate the additionality of the Project Activity in accordance with the applied CDM or GCC methodologies, which requires demonstration that the anthropogenic emissions of GHG emissions by sources are reduced below those that would have occurred in the absence of the proposed GCC Project Activity.</p> | <p>This project activity applies 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” and “tool for assessment and demonstration of additionality, version 7”. These are the latest version of the methodology and related additionality &amp; calculation tool.</p> |
|--|---|

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 then the below table is applicable however the proposed project activity is not a deemed an automatically additional project activity.

|  |           |
|--|-----------|
| <p>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).</p> | <p>NA</p> |
| <p>Explain how the proposed project activity meets the criteria for automatic additionality in the relevant methodology or standardized baselines.</p>   | <p>NA</p> |

The implemented project activity is a clean energy project in which electrical energy produced from the renewable energy power plant is supplied to the Indian National Electricity Grid. In the absence of project activity equivalent amount of electricity would have been generated from operation of grid connected power plants that are predominantly GHG intensive thermal power plants.

As per “Tool for the demonstration and assessment of additionality (version 07, Annex 08 of EB 70)” the methodological procedure to assess the additionality is through the following five steps:

- **Step 0: Demonstration whether the proposed project activity is the first-of-its-kind;**
- **Step 1: Identification of alternatives to the project activity**
- **Step 2: Investment analysis**
- **Step 3: Barrier Analysis**
- **Step 4: Common Practice Analysis**

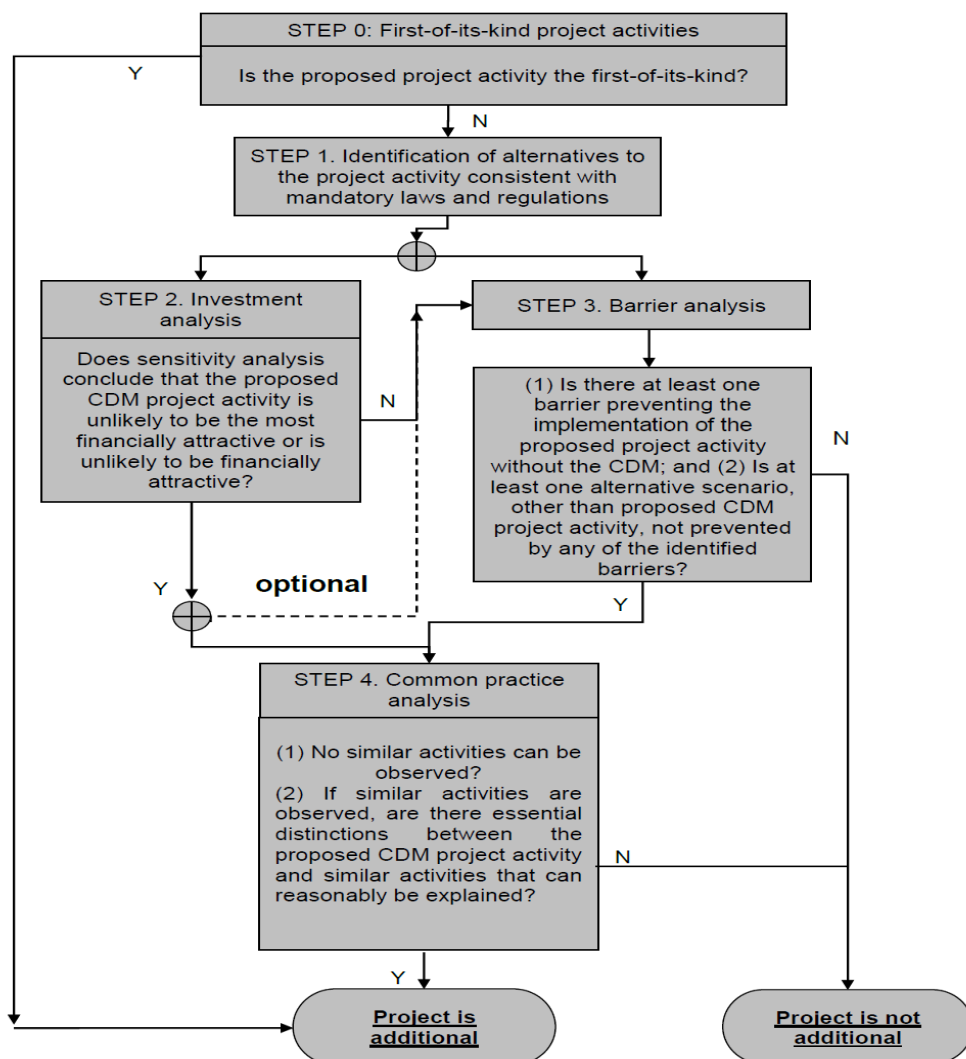


Figure 3: Flowchart of step-wise approach from CDM TOOL01

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

The project activity is not a first-of-its kind India hence this step is not applicable.

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

It is required to define realistic credible alternatives scenarios which were available to the project proponent or similar project developers that provide output or services comparable with the project activity. The identified alternative scenarios are required to be in compliance with local all mandatory applicable legal and regulatory requirements.

**Sub Step 1a: Define alternatives to the project activity.**

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

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

The project proponents could proceed with implementing the project without carbon credit benefits. The electricity generated from the wind power project would have been sold to the national grid, and this complies 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 the sale of Carbon Credits. The additionality section has detailed the project's financial feasibility with the Carbon Credit Revenue.

**Alternative 2: The grid electricity system would have produced equivalent energy through its currently running power plants and new capacity addition to the grid with no proposed project activity, i.e., Continuation of the present situation.**

The project proponents would have continued without investment in clean energy generation through WTGs with their usual business activities. The grid electricity generation would continue with existing fossil fuel-based power plants, as well as new capacity add-on of fossil fuel-based power plants, resulting in GHG emissions. This is an appropriate, realistic & credible baseline alternative for the project activity.

**Sub Step 1b: Consistency with mandatory laws and regulations**

The proposed project activity has 2 sub-projects which are Wind power projects involving supply of electricity to National Electricity grid. Hence, according to baseline methodology ACM0002 Version 20.0, since the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following: 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".

As the proposed activity is a Greenfield activity and in the absence of the project activity (the current baseline) the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources in the grid. The baseline meets all current national and sectoral policies. The relevant national laws and regulations pertaining to generation of energy are:

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

The above-mentioned Acts or policies do not mandate the choice of fuel to be used for power project. Power generation using renewable energy is not a mandatory legal requirement in India.

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 solar and 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**

As per Para 29 of the “Tool for the Demonstration and Assessment of Additionality” (version 7.0.0), it is determined that the Project activity is not economically or financially feasible option. The investment analysis is carried out using methodological tool: Investment Analysis Version 11 (EB 112, Annex 2) is used.

### **Sub-step 2a: Determine appropriate analysis method**

The additionality tool provides following three investment analysis options:

- (a) Option I: Simple Cost analysis
- (b) Option II: Investment comparison analysis
- (c) Option III: Benchmark analysis

The Option I is not applicable as the Project activity will be developed as an Independent Power Producer (“IPP”) to generate revenues from sale of electricity to National Grid. With regard to choosing of option from II & III, the Investment Comparison analysis has not been used due to the reason that there is no comparable investment alternative available to the Project participant. Therefore, Option III: Benchmark Analysis is used in line with Para 32 of the Methodological tool: “Tool for the demonstration and assessment of additionality” version 7.0. In Benchmark Analysis, the return on investment is compared with benchmark returns available to any investor in the country.

Based on the above discussion, it is clear that the Benchmark Analysis is the appropriate approach for evaluation of the investment decision.

### **Sub-step 2b: Option III – Apply Benchmark Analysis**

The financial/economic indicator Internal Rate of Return of equity (“Equity IRR”) is the most suitable for the project type and decision context. The same indicator is also used for project participant for evaluation of their investment.

## Benchmarks

The investment analysis has been undertaken in compliance with Methodological Tool EB112 Annex 2 - "Investment Analysis, Version 11.0", i.e., Default values for cost of equity (expected return on equity) is presented below:

Project participant has considered the benchmark based on equity indices. Return of equity has been estimated based on the values provided in table -1 under Appendix: Default values for the expected return on equity of "**Methodological tool-Investment analysis**" version-11.0. As per the values, Cost of Equity (expected return on equity) can be estimated as below –

$$\text{Return on equity Nominal} = (1 + \text{Return on equity Real}) * (1 + \text{Inflation rate Host country}) - 1$$

Where:

- Default value for Return on equity Real = 10.55% (as per Appendix of EB 112, Annex 02)
- Inflation Rate forecast for by Reserve Bank of India (RBI) (i.e., Central Bank of India) for India.

### **Estimation of benchmark**

As discussed above, return on equity has been taken as the benchmark. As per para 18 of the "**Methodological tool-Investment analysis**" version-11, *in cases of projects which could be developed by an entity other than the project participant the benchmark should be based on parameters that are standard in the market.*

As per para 14 of "**Methodological tool-Investment analysis**" version-11, *"If the benchmark is based on parameters that are standard in the market, the cost of equity should be determined either by: (a) selecting the values provided in Appendix A; or by (b) calculating the cost of equity using CAPM.*

As per Appendix of "**Methodological tool-Investment analysis**" version-11, the default value of expected return on equity in real terms for Energy Industries (Group 1) in India is 10.55% in real terms.

### **Return on equity (in nominal terms):**

Appendix of "**Methodological tool-Investment analysis**" version-11 provides the values in percentages in real terms. The real terms are converted to nominal terms by adding up an inflation rate. Inflation Rate forecast for by IMF for India is 4.238%.

| Benchmark Calculations                            | Value  | Sources Link  | Document Date |
|---|--------|---|---------------|
| Default Value for India as per UNFCCC guidelines  | 10.55% | <b>EB112 annex 02</b><br><a href="https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v11.0.pdf">https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v11.0.pdf</a>  | 29/10/2021    |
| Inflation forecast (WPI Mean) as per IMF for 5yrs | 4.238% | <a href="https://www.imf.org/en/Publications/WEO/weo-database/2020/October/weo-report?c=534,&amp;s=PCPIPCH,&amp;sy=2020&amp;ey=2024&amp;ssm=0&amp;scsm=1&amp;sc=0&amp;ssd=1&amp;ssc=0&amp;sic=0&amp;sort=country&amp;ds=.&amp;br=1">https://www.imf.org/en/Publications/WEO/weo-database/2020/October/weo-report?c=534,&amp;s=PCPIPCH,&amp;sy=2020&amp;ey=2024&amp;ssm=0&amp;scsm=1&amp;sc=0&amp;ssd=1&amp;ssc=0&amp;sic=0&amp;sort=country&amp;ds=.&amp;br=1</a> | 01/10/2020    |
| Benchmark (with                                   | 15.24% | Calculated  |               |



|                |               |            |  |
|----------------|---------------|------------|--|
| 5yrs Forecast) |               |            |  |
| Benchmark      | <b>15.24%</b> | Calculated |  |

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

**Calculation of Financial Indicator:  
Financial Analysis:**

The project proponents have used **Equity Internal Rate of Return (IRR)** as the financial indicator to identify the investment barriers for the project activity. The IRR is then compared to the chosen benchmark. The spread sheet of the calculations shall be provided to the auditor during validation. The parameters and assumptions used for calculations are presented below. The IRR has been calculated for a period of 25 years, the expected operational lifetime of the project activity as per para 3 of "**Methodological tool-Investment analysis**" version-11.

**Financial Parameters for bundled project:**

| <b>Assumptions for Financial Model</b>  |  |   |
|---|--|---|
| Capacity  | 27.30                                  | Turn Key Proposal for setting up WTGs<br>Ref: SEL/HYD/MKTG/003 and Ref:<br>SEL/MKTG/15-16/017     |
| Plant Load Factor   | 29.89%                                 | Energy Prognosis - Estimated Annual<br>Energy Generation,   |
| Commissioning Date  | March 28,2017<br>and March 29,<br>2017 | Commissioning Certificate   |
| Operation & Maintenance Cost for<br>2.1 MW Machine (free for first 1<br>years and 27 Lakhs per annum per<br>machine with 5% escalation every<br>year) (INR Million) | 35.10                                  | Turn Key Proposal for setting up WTGs<br>Ref: SEL/HYD/MKTG/003 and Ref:<br>SEL/MKTG/15-16/017     |
| % Of escalation per annum on O &<br>M Charges every year  | 5.00%                                  | Turn Key Proposal for setting up WTGs<br>Ref: SEL/HYD/MKTG/003 and Ref:<br>SEL/MKTG/15-16/017     |
| Service Tax   | 14.00%                                 | As Per Income Tax Rule  |
| Insurance Premium (0% of the Cost<br>of Plant and Machinery)  | 0.00                                   |   |
| Salvage Value (Considered as 10%<br>of the WTG Cost + Cost of Land)<br>(INR Million)  | 203.38                                 | APERC order in the matter of<br>determination of wind power generation<br>tariff dated 15/11/2012 |
| Tariff for sale INR/Kwh   | 4.25                                   | PPA Agreement   |

Project Submission Form

|   |                    |   |
|---|--------------------|---|
| Income Tax Depreciation Rate (Written Down Value basis) on Wind Energy Generators | 7.69%              | Appendix I of Income Tax Rules  |
| <b>Book Depreciation (SLM Method)</b>   |                    |   |
| Book Depreciation Rate (Straight Line Method basis)                               | 4.00%              | Schedule XIV of Company's Act   |
| Book Depreciation up to (% of asset value)  | 100.00%            |   |
| <b>Project Cost</b>   | <b>INR Million</b> |   |
| WTG Cost  | 2020.00            | Turn Key Proposal for setting up WTGs Ref: SEL/HYD/MKTG/003 and Ref: SEL/MKTG/15-16/017   |
| Land Cost   | 13.8               | Land Documents  |
| Total Project Cost  | 2033.80            | Turn Key Proposal for setting up WTGs Ref: SEL/HYD/MKTG/003 and Ref: SEL/MKTG/15-16/017   |
| <b>Means of Finance</b>   | <b>INR Million</b> |   |
| Internal Accruals   | 1649.68            |   |
| Loan  | 384.12             | Loan Document by Standard Chartered,06/09/2016  |
| Total   | 2033.80            | Calculated  |
| Repayment Period (number of Years)  | 4.75               | Loan Document by Standard Chartered,06/09/2016  |
| Moratorium (in year)  | 1.25               | Loan Document by Standard Chartered,06/09/2016  |
| Interest Rate   | 4.50%              | Loan Document by Standard Chartered,06/09/2016  |
| <b>Income Tax</b>   |                    |   |
| Income Tax rate   | 30.000%            | <a href="https://taxguru.in/income-tax/income-tax-slab-financial-year-201516.html">https://taxguru.in/income-tax/income-tax-slab-financial-year-201516.html</a> |
| MAT   | 30.000%            | <a href="https://taxguru.in/income-tax/income-tax-slab-financial-year-201516.html">https://taxguru.in/income-tax/income-tax-slab-financial-year-201516.html</a> |
| Surcharge   | 12.000%            | <a href="https://taxguru.in/income-tax/income-tax-slab-financial-year-201516.html">https://taxguru.in/income-tax/income-tax-slab-financial-year-201516.html</a> |
| Health & Educational Cess   | 3.000%             | <a href="https://taxguru.in/income-tax/income-tax-slab-financial-year-201516.html">https://taxguru.in/income-tax/income-tax-slab-financial-year-201516.html</a> |

**Financial Results:**

| S. No. | Project Developers | Benchmark (Equity IRR) | Actual |
|--------|--------------------|------------------------|--------|
|--------|--------------------|------------------------|--------|

|   |               |         |       |
|---|---------------|---------|-------|
| 1 | UEPL and ETPL | 15.24 % | 5.80% |
|---|---------------|---------|-------|

**Sub-step 2d: Sensitivity Analysis**

A sensitivity analysis was conducted by altering the following parameters in order to show that the conclusion of the benchmark analysis is robust to reasonable variations in the critical assumptions:

- PLF
- Project Cost
- O&M costs (total)
- Tariff

These parameters were selected as they are the most likely to fluctuate over time and can significantly affect the financial attractiveness of the Project. The sensitivity analysis was performed by altering these parameters enough to reach the benchmark. Then the output value of the alteration for each parameter was compared with the most maximum variation value which is supported by official contracts, articles or technical data. If the maximum variation value for any parameter is higher than the alteration necessary to make the project feasible, there is a possible scenario that makes the Project feasible. The table below presents the results of the sensitivity analysis.

| FACTOR       | VARIATION |       |       | Variation required to reach Benchmark |
|--------------|-----------|-------|-------|---------------------------------------|
|              | -10%      | 0%    | 10%   |                                       |
| PLF          | 4.55%     | 5.80% | 6.93% | 102.60%                               |
| Project Cost | 7.09%     | 5.80% | 4.68% | -48.55%                               |
| O&M Costs    | 6.00%     | 5.80% | 5.59% | -699.00%                              |
| Tariff       | 4.55%     | 5.80% | 6.93% | 102.60%                               |
| Benchmark    | 15.24 %   |       |       |                                       |

**Outcome of Step 2:**

It can, therefore, safely be concluded that the Project is not commercially viable without carbon revenue and returns and financial indicators will render the Project un-fundable and it would be close to impossible to attract equity investment into an enterprise with high country and project risk while returns are low; implementation is thus dependent on GCC registration. Thus, project activity indicates that the proposed project activity is additional.

As Step 2 is satisfied and Step 3 is not required, we will now proceed to Step 4 (Common Practice Analysis).

**Step 3: Barrier Analysis**

This step is not applied as per the tool.

**Step 4: Common Practice Analysis**

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

Stepwise approach for common practice analysis has been carried out as per Methodological tool “Common Practice”, version 03.1 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%                                      | 40.95    | MW   |
| Capacity of the proposed project activity | 27.3     | MW   |
| -50%                                      | 13.65    | 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 Step 1;
- 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 (carbon revenue and non-carbon revenue) is carried out as per sub-steps of Step (2) as follows:

- As the projects are located in Andhra Pradesh, India, therefore, projects in the geographical area of Andhra Pradesh have been chosen for analysis. The project activity involves generation of electricity from wind energy. The project activity is located in Andhra Pradesh in India and the policy applicable for the wind projects is regulated by state policy. The policies/tariff for each state in India is regulated by State Electricity Regulatory Commissions and they differ for respective states.
- 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 13.65 MW to 40.95 MW.
- The start date of the concerned project activity of ETPL is 21/10/2015 and UEPL is 21/10/2015 as per the Purchase Order contract of the project activity. Therefore projects, which have started commercial operation before 21/10/2015 have been considered for analysis.

Numbers of Similar projects identified which fulfill above-mentioned conditions are  $N_{Wind} = 19$

**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/VCS/GS/GCC and EU-ETS project activities, which have got registered, submitted for registration or are under validation, have been excluded in this step. The list of the power plants identified is provided to the Verifier. After excluding the registered, submitted for registration and under validation projects the total number of projects.

$N_{All} = 5$

**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  $N_{diff}$ .

Explanation: As per para 12 of the tool, technology is different based on the following criteria:

|   |  |
|---|--|
| Energy source/fuel (example: energy generation by different energy sources such as wind and hydro and different types of fuels such as biomass and natural gas);  | Since the projects are all wind power projects, all wind power projects have been considered for analysis.   |
| Feed stock (example: production of fuel ethanol from different feed stocks such as sugar cane and starch, production of cement with varying percentage of alternative fuels or less carbon intensive fuels);                    | This is not applicable   |
| Size of installation (power capacity)/energy savings: (i) Micro (as defined in paragraph 24 of decision 2/CMP.5 and paragraph 39 of decision 3/CMP.6); (ii) Small (as defined in paragraph 28 of decision 1/CMP.2); (iii) Large | Since the project falls under the definition of large scale, all wind projects of capacity between 13.65 MW to 40.95 MW have been considered for analysis. |
| Investment climate on the date of the investment decision, inter alia: (i) Access to technology; (ii) Subsidies or other financial flows; (iii) Promotional policies; (iv) Legal regulations;                                   | The investment climate for entire India is considered to be same.  |

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

The project activity is selling the Power to DISCOM through standard PPA. The investment climate for the proposed project is different from any other project of different tariff or revenue structure. So, wind power project that are not similar to the investment climate are considered as different from the project activity

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

$$N_{diff} = 4$$

**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

$$\text{For the proposed project activity } F = 1-(4/5) = 0.2$$

As per para 10 of the guideline, “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.” As calculated from Step 5, Factor  $F = 0.2$  which is not less than 0.2.

In addition to this,  $N_{all} - N_{diff} = 5-4 = 1$ , which is not greater than 3 and hence the 2nd condition is not met. Hence the project activity is not a “common practice” within a sector in the applicable geographical area. Hence as per the tool of additionality version 7, the project is additional.

## B.6. Estimation of emission reductions

### B.6.1. Explanation of methodological choices

As per the paragraph 54 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 are no any leakage emissions from the project activity.

$$\text{Hence, } LE_y = 0$$

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<sub>2</sub>e/yr)

$BE_y$  = Baseline emissions in year y (t CO<sub>2</sub>/yr)

$PE_y$  = Project emissions in year y (t CO<sub>2</sub>e/yr)

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

$$ER_y = BE_y - PE_y$$

### Baseline Emissions

As per ACM0002 Version 20.0, the baseline emissions include only CO<sub>2</sub> 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:

$$BE_y = EG_{PJ,y} * EF_{grid,CM,y} \quad (1)$$

Where:

- $BE_y$  = Baseline emissions in year  $y$  (tCO<sub>2</sub>/yr)
- $EG_{PJ,y}$  = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year  $y$  (MWh/yr)
- $EF_{grid,CM,y}$  = Combined margin CO<sub>2</sub> 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” (tCO<sub>2</sub>/MWh)

#### Calculation of $EG_{PJ,y}$

As per the methodology ACM0002 Version 20, the calculation of  $EG_{PJ,y}$  for the project activity is as follows:

##### (a) Greenfield renewable energy power plants

The project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, then:

$$EG_{PJ,y} = EG_{facility,y} \quad (2)$$

Where:

- $EG_{PJ,y}$  = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity) in year  $y$  (MWh/yr)
- $EG_{facility,y}$  = Quantity of net electricity generation supplied by the project plant/unit to the grid in year  $y$  (MWh/yr)

The baseline emissions are the product of net electricity generated and supplied to National Electricity Grid as a result of implementation of the project activity in year  $y$   $EG_{PJ,y}$  expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.

As per ACM0002 Version 20.0 the Emission Factor for the grid connected power generation in year  $y$  is calculated using the latest version of the “Tool to calculate the emission factor for electricity system”, version 07, annex 4 of EB 100, the baseline emission factor is calculated as a combined margin (CM), consisting of the simple average of the operating margin emission factor (OM) and build margin emission factor (BM) by utilizing an ex-ante 3 years data period.

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

| Parameter                | SI Unit                | Description   |
|--------------------------|------------------------|---|
| EF <sub>grid, CM,y</sub> | t CO <sub>2</sub> /MWh | Combined margin CO <sub>2</sub> emission factor for the project electricity system in year y  |
| EF <sub>grid, OM,y</sub> | t CO <sub>2</sub> /MWh | Build margin CO <sub>2</sub> emission factor for the project electricity system in year y     |
| EF <sub>grid, BM,y</sub> | t CO <sub>2</sub> /MWh | Operating margin CO <sub>2</sub> emission factor for the project electricity system in year y |
| W <sub>OM</sub>          | NIL                    | Default weight is 75%   |
| W <sub>BM</sub>          | NIL                    | Default weight is 25%   |

This tool determines the CO<sub>2</sub> emission factor for displacement of electricity generated by power plants in an electricity system by calculating the “operating margin” (OM) and “build margin” (BM) as well as “combined margin” (CM) through a step wise approach.

As per the "Tool to calculate the emission factor for an electricity system" Version 07.0, EB 100, Annex 4, the following steps have been followed.

- (a) **Step 1:** Identify the relevant electricity systems;
- (b) **Step 2:** Choose whether to include off-grid power plants in the project electricity system (optional);
- (c) **Step 3:** Select a method to determine the operating margin (OM);
- (d) **Step 4:** Calculate the operating margin emission factor according to the selected method;
- (e) **Step 5:** Calculate the build margin (BM) emission factor;
- (f) **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 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 has divided the Indian Power Sector into five regional grids viz. Northern, Eastern, Western, North-eastern and Southern. 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 CO<sub>2</sub> Baseline Database. As of 31 December 2013, the Southern grid has also been synchronized with the NEWNE grid; hence forming one unified Indian Grid.

As the project activity is connected to the national grid, it is preferred to take the National grid as project boundary than the state boundary. It also minimizes the effect of interstate power transactions, which are dynamic and vary widely.

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

One of the following two options may be chosen 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.

Only Grid power plants are included in the Combined Margin calculation as published by Central Electricity Authority in “The Central Electricity Authority (CEA): Baseline Carbon Dioxide Emission database version 17 dated October 2021”, hence the Option I may be considered for the given project activity

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

The calculation of the operating margin emission factor ( $EF_{grid,OM,y}$ ) is based on one of the following methods: (a) Simple OM, (b), Simple adjusted OM, (c) Dispatch Data Analysis, or (d) Average OM. The two variants “Simple adjusted operating margin” and “Dispatch data analysis operating margin” cannot currently be applied in India due to lack of necessary data.

In India, hydro and nuclear stations qualify as low-cost / must-run sources and are excluded.

The average of the low cost / must-run sources to the Net generation of the National Grid over the period of the last five years is as per the below table:

| <b>Share of Must-Run (% of Net Generation)</b> | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> | <b>2019-20</b> | <b>2020-21</b> |
|--|----------------|----------------|----------------|----------------|----------------|
| National Grid                                  | 14.6%          | 14.3%          | 14.5%          | 17.0%          | 16.5%          |

As the low-cost/must-run resources constitute less than 50% of total grid generation in the five most recent years, thus Simple O.M. has been used to calculate the operating margin.

The Central Electricity Authority (CEA): Baseline Carbon Dioxide Emission database version 17 dated October 2021 data have been publicized and the simple OM has been referred for the OM calculation.

The ex-ante option is selected for the project activity.

PP 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 DOE for validation.

OM determined at validation stage will be the same throughout the crediting period. There will be no requirement to monitor & recalculate the emission factor during the crediting period.

**Step 4: Calculate the operating margin emission factor according to the selected method (OM)**

The simple OM emission factor is calculated as the generation-weighted average CO<sub>2</sub> emissions per unit net electricity generation (tCO<sub>2</sub>e/MWh) of all generating power plants serving the system, not including low-cost/must-run power plants/units.

The simple OM may be calculated by one of the following two options:

Option A: Based on the net electricity generation and a CO<sub>2</sub> emission factor of each power unit; or  
 Option B: Based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system.

Option A of the above two options which is “Option A - Based on the net electricity generation and a CO<sub>2</sub> emission factor of each power unit” is used for the calculation simple O.M.

The formula used for calculating the simple operating margin is as follows:

$$EF_{grid,OMsimple,y} = \frac{\sum_m EG_{m,y} \cdot EF_{EL,m,y}}{\sum_m EG_{m,y}}$$

$EF_{grid,OMsimple,y} = EF_{grid,OM,y}$  = Simple operating margin CO<sub>2</sub> emission factor in year  $y$  (tCO<sub>2</sub>e/MWh)

$EG_{m,y}$  = Net quantity of electricity generated and delivered to the grid by power unit  $m$  in year  $y$ (MWh)

$EF_{EL,m,y}$  = CO<sub>2</sub> emission factor of power unit  $m$  in year  $y$  (tCO<sub>2</sub>e/MWh)

$m$  = All power units serving the grid in year  $y$  except low-cost / must-run power units

$y$  = the relevant year as per the data vintage

The Operating Margin for the project activity is calculated considering the 3-year generation weighted average of Operating Margin data for National grid as published by Central Electricity Authority (CEA) CO<sub>2</sub> database version 17 dated October 2021.

| Indian National Grid  | 2018-19 | 2019-20 | 2020-21 |
|---|---------|---------|---------|
| <b>Net generation in operating margin(GWh)</b>                  | 995,957 | 965,009 | 958,218 |
| <b>Operating Margin Emission Factor (tCO<sub>2</sub>e/MWh)</b>  | 0.9603  | 0.9555  | 0.9405  |
| <b>Weighted average operating margin (tCO<sub>2</sub>e/MWh)</b> | 0.9522  |         |         |

The value of Operating Margin Emission Factor = 0.9522 tCO<sub>2</sub>e/MWh

### **Step 5: Calculate the build margin (BM) emission factor**

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.
- (c) Option 1 as described above is chosen by GCC 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.
- (d) Option 1 as described above is chosen by GCC 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 (tCO <sub>2</sub> /MWh) (not adjusted for imports) |         |
|   | 2020-21 |
| INDIAN Grid   | 0.8653  |

**Step 6: Calculate the combined margin (CM) emission factor**

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.

The weighted average CM method (option A) should be used as the preferred option.

The combined margin emission factor is calculated as follows:

Input values and data sources for the calculation of  $EF_{CO_2}$  ( $EF_{grid,CM,y}$ )

| Parameter        | Description   | Unit                  | Source  |
|------------------|---|-----------------------|---|
|                  |   |                       | “Tool to calculate the emission factor for an electricity system” |
| $EF_{grid,CM,y}$ | Combined margin CO <sub>2</sub> emission factor in year y. This equals to $EF_{CO_2}$ | tCO <sub>2</sub> /MWh | Calculated  |
| $EF_{grid,OM,y}$ | Simple operating margin CO <sub>2</sub> emission factor in year                       | tCO <sub>2</sub> /MWh | Calculated  |

|                  |  |                       |   |
|------------------|--|-----------------------|---|
|                  | y.   |                       |   |
| $EF_{grid,BM,y}$ | Build margin CO <sub>2</sub> emission factor in year y | tCO <sub>2</sub> /MWh | Calculated  |
| $W_{OM}$         | Weighting of operating margin emission factor          | 0.75                  | “Tool to calculate the emission factor for an electricity system” |
| $W_{BM}$         | Weighting of build margin emission factor              | 0.25                  | “Tool to calculate the emission factor for an electricity system” |

Hence, the grid emission factor,  $EF_{grid,CM,y}$  is calculated as:

$$EF_{grid,CM,y} = 0.9522 * 0.75 + 0.8653 * 0.25 = 0.9305 \text{ tCO}_2/\text{MWh}$$

Emissions Reductions = Baseline Emissions ( $BE_y$ ) – Project Emissions ( $PE_y$ ) – Leakage ( $L_y$ )

### Project Emissions

As per ACM0002 Version 20.0,

For most renewable power generation project activities,  $PE_y = 0$ . However, some project activities may involve project emissions that can be significant. These emissions shall be accounted for as project emissions by using the following equation:

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y} \quad (3)$$

Where:

$PE_y$  = Project emissions in year y (tCO<sub>2</sub>e/yr)

$PE_{FF,y}$  = Project emissions from fossil fuel consumption in year y (tCO<sub>2</sub>/yr)

$PE_{GP,y}$  = Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO<sub>2</sub>e/yr)

$PE_{HP,y}$  = Project emissions from water reservoirs of hydro power plants in year y (tCO<sub>2</sub>e/yr)

According to ACM0002 Version 20.0 for all renewable energy power generation project activities, emissions due to the use of fossil fuels for the backup generator can be neglected. Furthermore, the Project Activity involves installation of wind power plants. Therefore,  $PE_y = 0$

### Leakage

In accordance with the methodology ACM0002, no leakage is to be considered. Hence for the project activity, Leakage Emissions ( $LE_y$ ) = 0

### Emission Reductions

$$ER_y = BE_y - PE_y - LE_y \quad (4)$$

Where:

|        |   |   |
|--------|---|---|
| $ER_y$ | = | Emission reductions in year $y$ (tCO <sub>2</sub> e/yr) |
| $BE_y$ | = | Baseline emissions in year $y$ (tCO <sub>2</sub> e/yr)  |
| $PE_y$ | = | Project emissions in year $y$ (tCO <sub>2</sub> e/yr)   |
| $LE_y$ | = | Leakage emissions in year $y$ (tCO <sub>2</sub> e/yr)   |

## B.6.2. Data and parameters fixed ex ante

**Data / Parameter Table 1.**

|  |  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
|--|--|---------------|----------------|-------------------|----------------|-------------------|----------------|------------------------|----------------|-----------------------|----------------|-------------------------------|----------------|--|----------------|--------------------|----------------|
| <b>Data / Parameter:</b>                               | <b>EF<sub>grid,OM,y</sub></b>  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Methodology reference                                  | AMS I.D. (Version 18)  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Data unit  | tCO <sub>2</sub> /MWh  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Description  | Operating Margin CO <sub>2</sub> emission factor in the year $y$   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Measured/calculated/default                            | Calculated   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Data source  | CO <sub>2</sub> Emission Database, version 17.0, dated October 2021 published by Central Electricity Authority (CEA), Government of India ( <a href="http://www.cea.nic.in">www.cea.nic.in</a> )   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Value(s) of monitored parameter                        | 0.9522   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Measurement/ Monitoring equipment (if applicable)      | <table border="1"> <tr> <td>Type of meter</td> <td>Not applicable</td> </tr> <tr> <td>Location of meter</td> <td>Not applicable</td> </tr> <tr> <td>Accuracy of meter</td> <td>Not applicable</td> </tr> <tr> <td>Serial number of meter</td> <td>Not applicable</td> </tr> <tr> <td>Calibration frequency</td> <td>Not applicable</td> </tr> <tr> <td>Date of Calibration/ validity</td> <td>Not applicable</td> </tr> <tr> <td>Reference No. of Calibration Certificate</td> <td>Not applicable</td> </tr> <tr> <td>Calibration Status</td> <td>Not applicable</td> </tr> </table> | Type of meter | Not applicable | Location of meter | Not applicable | Accuracy of meter | Not applicable | Serial number of meter | Not applicable | Calibration frequency | Not applicable | Date of Calibration/ validity | Not applicable | Reference No. of Calibration Certificate | Not applicable | Calibration Status | Not applicable |
| Type of meter  | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Location of meter                                      | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Accuracy of meter                                      | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Serial number of meter                                 | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Calibration frequency                                  | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Date of Calibration/ validity                          | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Reference No. of Calibration Certificate               | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Calibration Status                                     | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Measuring/reading/ recording frequency (if applicable) | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Calculation method (if applicable)                     | The value used is calculated ex-ante as generation based weighted average of the last three years of the Operating margin provided by Central Electricity Authority (CEA) CO <sub>2</sub> database version 17 dated October 2021.  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |

|                     |   |
|---------------------|---|
|                     | ( <a href="http://www.cea.nic.in">www.cea.nic.in</a> )          |
| QA/QC procedures    | Not applicable  |
| Purpose of data     | Calculation of baseline emissions                               |
| Additional comments | This parameter is fixed ex-ante for the entire crediting period |

**Data / Parameter Table 2.**

|  |  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
|--|--|---------------|----------------|-------------------|----------------|-------------------|----------------|------------------------|----------------|-----------------------|----------------|-------------------------------|----------------|--|----------------|--------------------|----------------|
| <b>Data / Parameter:</b>                               | <b>EF</b> <sub>grid,BM,y</sub>   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Methodology reference                                  | AMS I.D. (Version 18)  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Data unit  | tCO <sub>2</sub> /MWh  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Description  | Build Margin CO <sub>2</sub> emission factor in the year y   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Measured/calculated/default                            | Calculated   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Data source  | CO <sub>2</sub> Emission Database, version 17.0, dated October 2021 published by Central Electricity Authority (CEA), Government of India ( <a href="http://www.cea.nic.in">www.cea.nic.in</a> )   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Value(s) of monitored parameter                        | 0.8653   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Measurement/ Monitoring equipment (if applicable)      | <table border="1"> <tr> <td>Type of meter</td> <td>Not applicable</td> </tr> <tr> <td>Location of meter</td> <td>Not applicable</td> </tr> <tr> <td>Accuracy of meter</td> <td>Not applicable</td> </tr> <tr> <td>Serial number of meter</td> <td>Not applicable</td> </tr> <tr> <td>Calibration frequency</td> <td>Not applicable</td> </tr> <tr> <td>Date of Calibration/ validity</td> <td>Not applicable</td> </tr> <tr> <td>Reference No. of Calibration Certificate</td> <td>Not applicable</td> </tr> <tr> <td>Calibration Status</td> <td>Not applicable</td> </tr> </table> | Type of meter | Not applicable | Location of meter | Not applicable | Accuracy of meter | Not applicable | Serial number of meter | Not applicable | Calibration frequency | Not applicable | Date of Calibration/ validity | Not applicable | Reference No. of Calibration Certificate | Not applicable | Calibration Status | Not applicable |
| Type of meter  | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Location of meter                                      | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Accuracy of meter                                      | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Serial number of meter                                 | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Calibration frequency                                  | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Date of Calibration/ validity                          | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Reference No. of Calibration Certificate               | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Calibration Status                                     | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Measuring/reading/ recording frequency (if applicable) | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Calculation method (if applicable)                     | The value used is calculated ex-ante as generation based weighted average of the last year of the build margin provided by Central Electricity Authority (CEA) CO <sub>2</sub> database version 17 dated October 2021. ( <a href="http://www.cea.nic.in">www.cea.nic.in</a> )  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| QA/QC procedures                                       | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Purpose of data  | Calculation of baseline emissions  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Additional comments                                    | This parameter is fixed ex-ante for the entire crediting period  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |

**Data / Parameter Table 3.**

|  |  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
|--|--|---------------|----------------|-------------------|----------------|-------------------|----------------|------------------------|----------------|-----------------------|----------------|-------------------------------|----------------|--|----------------|--------------------|----------------|
| <b>Data / Parameter:</b>                               | <b><math>EF_{grid,CM,y} = EF_{CO_2, grid, y}</math></b>  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Methodology reference                                  | AMS I.D. (Version 18)  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Data unit  | tCO <sub>2</sub> /MWh  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Description  | The Indian Grid CO <sub>2</sub> emission factor in the year y  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Measured/calculated/default                            | Calculated   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Data source  | CO <sub>2</sub> Emission Database, version 17 dated October 2021 published by Central Electricity Authority (CEA), Government of India ( <a href="http://www.cea.nic.in">www.cea.nic.in</a> )  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Value(s) of monitored parameter                        | 0.9305   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Measurement/ Monitoring equipment (if applicable)      | <table border="1"> <tr> <td>Type of meter</td> <td>Not applicable</td> </tr> <tr> <td>Location of meter</td> <td>Not applicable</td> </tr> <tr> <td>Accuracy of meter</td> <td>Not applicable</td> </tr> <tr> <td>Serial number of meter</td> <td>Not applicable</td> </tr> <tr> <td>Calibration frequency</td> <td>Not applicable</td> </tr> <tr> <td>Date of Calibration/ validity</td> <td>Not applicable</td> </tr> <tr> <td>Reference No. of Calibration Certificate</td> <td>Not applicable</td> </tr> <tr> <td>Calibration Status</td> <td>Not applicable</td> </tr> </table> | Type of meter | Not applicable | Location of meter | Not applicable | Accuracy of meter | Not applicable | Serial number of meter | Not applicable | Calibration frequency | Not applicable | Date of Calibration/ validity | Not applicable | Reference No. of Calibration Certificate | Not applicable | Calibration Status | Not applicable |
| Type of meter  | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Location of meter                                      | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Accuracy of meter                                      | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Serial number of meter                                 | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Calibration frequency                                  | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Date of Calibration/ validity                          | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Reference No. of Calibration Certificate               | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Calibration Status                                     | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Measuring/reading/ recording frequency (if applicable) | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Calculation method (if applicable)                     | The value has been calculated as $0.75 * EF_{grid,OM, y} + 0.25 * EF_{grid,BM, y}$   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| QA/QC procedures                                       | Not applicable   |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Purpose of data  | Calculation of baseline emissions  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |
| Additional comments                                    | This parameter is fixed ex-ante for the entire crediting period  |               |                |                   |                |                   |                |                        |                |                       |                |                               |                |  |                |                    |                |

**B.6.3. Ex-ante calculation of emission reductions**

As per ACM0002, Version 20, the baseline emissions include only CO<sub>2</sub> 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:

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

| Parameter | Description | Value | Source |
|-----------|-------------|-------|--------|
|-----------|-------------|-------|--------|

Project Submission Form

|                                       |  |   |  |
|---------------------------------------|--|---|--|
| $BE_y = (EG_{PJ,y}) * EF_{grid,CM,y}$ |  |   |  |
| $BE_y$                                | Baseline Emissions in year y (t CO <sub>2</sub> /yr) |   | Calculated   |
| $EG_{PJ,y}$<br>$EG_{facility,y}$      | =  | Quantity of net electricity generation that is produced and fed into the grid as result of the implementation of the project activity in year y (MWh/yr)  | 71,481   |
| $EF_{grid,CM,y}$                      |  | Combined margin CO <sub>2</sub> emission factor for grid connected power generation in year y calculated using the “Tool to calculate the emission factor for an electricity system” Version 07.0.0 (tCO <sub>2</sub> /MWh) | 0.9305   |
|                                       |  |   | Calculated as Installed Capacity × PLF × Operating Hours   |
|                                       |  |   | The emission factor as calculated using the Tool to calculate the emission factor for an electricity system, Version 07.0.0. |

$$BE_y = 71,481 * 0.9305 \text{ tCO}_2\text{e} = 66,513 \text{ tCO}_2\text{e}$$

The project activity involves installation of wind power plants, hence  $PE_y = 0$

In accordance with the methodology ACM0002, no leakage is to be considered, Hence  $LE_y = 0$

Emissions Reductions ( $ER_y$ ) = Baseline Emissions ( $BE_y$ ) – Project Emissions ( $PE_y$ ) – Leakage Emissions ( $LE_y$ )

Hence,

$$ER_y = BE_y$$

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

| Year                    | Baseline emissions (t CO <sub>2</sub> e) | Project emissions (t CO <sub>2</sub> e) | Leakage (t CO <sub>2</sub> e) | Emission reductions (t CO <sub>2</sub> e) |
|-------------------------|--|---|-------------------------------|---|
| 24/03/2016 - 23/03/2017 | 66,513                                   | 0                                       | 0                             | 66,513                                    |
| 24/03/2017 - 23/03/2018 | 66,513                                   | 0                                       | 0                             | 66,513                                    |
| 24/03/2018 - 23/03/2019 | 66,513                                   | 0                                       | 0                             | 66,513                                    |
| 24/03/2019 - 23/03/2020 | 66,513                                   | 0                                       | 0                             | 66,513                                    |
| 24/03/2020 - 23/03/2021 | 66,513                                   | 0                                       | 0                             | 66,513                                    |
| 24/03/2021 - 23/03/2022 | 66,513                                   | 0                                       | 0                             | 66,513                                    |
| 24/03/2022 - 23/03/2023 | 66,513                                   | 0                                       | 0                             | 66,513                                    |
| 24/03/2023 - 23/03/2024 | 66,513                                   | 0                                       | 0                             | 66,513                                    |
| 24/03/2024 -            | 66,513                                   | 0                                       | 0                             | 66,513                                    |



|   |          |   |   |          |
|---|----------|---|---|----------|
| 23/03/2025                                      |          |   |   |          |
| 24/03/2025 -<br>23/03/2026                      | 66,513   | 0 | 0 | 66,513   |
| <b>Total</b>                                    | 6,65,134 | 0 | 0 | 6,65,134 |
| <b>Total number of crediting years</b>          | 10       |   |   |          |
| <b>Annual average over the crediting period</b> | 66,513   | 0 | 0 | 66,513   |

## 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 renewable power projects 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

**Data / Parameter Table 1.**

|                                   |   |   |  |
|-----------------------------------|---|---|--|
| <b>Data / Parameter:</b>          | <b>EG<sub>facility,y</sub></b> (SDG -7)   |   |  |
| Methodology reference             | ACM0002   |   |  |
| Data unit                         | MWh/y   |   |  |
| Description                       | Quantity of net electricity generation supplied by the project plant/unit to the grid in year y   |   |  |
| Measured/calculated/default       | Measured & calculated   |   |  |
| Data source                       | Credit note/ JMR/Form B reports/ monthly generation report from state electricity board/DISCOM  |   |  |
| Value(s) of monitored parameter   | 71,481 MWh  |   |  |
| Measurement/ Monitoring equipment | The meter details will be provided during the verification.<br>Energy meters of accuracy class 0.2s<br>Main and Check meters are installed at the govt substations by the electricity utility to measure the net exported electricity from the plant. |   |  |
|                                   | Type of meter   | Will be provided during the emission reduction verification |  |
|                                   | Location of mete  | Will be provided during the emission reduction verification |  |
|                                   | Accuracy of meter   | Will be provided during the emission reduction verification |  |

|                                       |   |   |
|---------------------------------------|---|---|
|                                       | Serial number of meter  | Will be provided during the emission reduction verification |
|                                       | Calibration frequency   | Will be provided during the emission reduction verification |
|                                       | Date of Calibration/ validity   | Will be provided during the emission reduction verification |
|                                       | Reference No. of Calibration Certificate  | Will be provided during the emission reduction verification |
|                                       | Calibration Status  | Will be provided during the emission reduction verification |
| Measuring/reading/recording frequency | Measurement: Continuous<br>Recording: Monthly   |   |
| Calculation method (if applicable)    | <p>The value of net electricity generation supplied to the grid as per Monthly Joint Meter Reading Report forms (B-Forms) the basis for calculation of the emission reductions; which can be crosschecked from the invoice raised to Consumer.</p> <p>The Net electricity is calculated based on Export- Import Transmission loss. Monthly meter readings are taken from the main and check meter installed at metering point and certified by the representatives of SEB Officials and the representatives of the project participant. The export and import values of the form-B/Credit note or Joint Meter Reports is cross checked with the export and import values mentioned at the electricity sales invoice</p> |   |
| QA/QC procedures                      | <p>Calibration of electricity meters is carried out in-line with the Nation standard<sup>14</sup> which recommends at least once in 5-year calibration or whenever abnormal difference/inconsistency is observed between main meter and check meter.</p> <p>The meter(s) shall be calibrated and maintained by the state utility as per their own schedule, and this frequency of meter calibration is not within the control of the Project Proponent.</p>   |   |
| Purpose of data                       | Calculation baseline emission   |   |
| Additional comments                   | Not Applicable  |   |

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

#### E+ Assessment

#### Data / Parameter Table 2.

|   |  |
|---|--|
| Data / Parameter:                         | CO <sub>2</sub> emissions (EA03)   |
| Purpose:                                  | <i>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.</i> |
| Describe the related environment /social/ | The project reduces CO <sub>2</sub> emissions since it reduces the amount of fossil fuel used. In case of "no project", stated amount of electricity would be generated from   |

<sup>14</sup> (Page number 12 of ) [http://www.aegcl.co.in/Metering\\_Regulations\\_Of\\_CEA\\_17\\_03\\_2006.pdf](http://www.aegcl.co.in/Metering_Regulations_Of_CEA_17_03_2006.pdf)

Project Submission Form

|  |   |  |                           |                           |                         |        |   |  |       |   |
|--|---|--|---------------------------|---------------------------|-------------------------|--------|---|--|-------|---|
| SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.   | fossil fuels and cause air pollution.   |  |                           |                           |                         |        |   |  |       |   |
| 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 data-bbox="506 495 808 592">Parameter to be monitored</td> <td data-bbox="815 495 1477 592">CO<sub>2</sub> emissions</td> </tr> <tr> <td data-bbox="506 600 808 655">Frequency of monitoring</td> <td data-bbox="815 600 1477 655">Yearly</td> </tr> <tr> <td data-bbox="506 663 808 718">Legal /regulatory / corporate limits (if any)</td> <td data-bbox="815 663 1477 718">The Air (Prevention &amp; Control of Pollution) Act 1981</td> </tr> <tr> <td data-bbox="506 726 808 844">QA/QC</td> <td data-bbox="815 726 1477 844">The amount of CO<sub>2</sub> emission avoided will be estimated based on the net quantity of electricity supplied to the grid and the grid emission factor. The electricity meter used</td> </tr> </table> |  | Parameter to be monitored | CO <sub>2</sub> emissions | Frequency of monitoring | Yearly | Legal /regulatory / corporate limits (if any) | The Air (Prevention & Control of Pollution) Act 1981 | QA/QC | The amount of CO <sub>2</sub> emission avoided will be estimated based on the net quantity of electricity supplied to the grid and the grid emission factor. The electricity meter used |
| Parameter to be monitored  | CO <sub>2</sub> emissions   |  |                           |                           |                         |        |   |  |       |   |
| Frequency of monitoring  | Yearly  |  |                           |                           |                         |        |   |  |       |   |
| Legal /regulatory / corporate limits (if any)  | The Air (Prevention & Control of Pollution) Act 1981  |  |                           |                           |                         |        |   |  |       |   |
| QA/QC  | The amount of CO <sub>2</sub> emission avoided will be estimated based on the net quantity of electricity supplied to the grid and the grid emission factor. The electricity meter used   |  |                           |                           |                         |        |   |  |       |   |
| Remarks  | Data will be archived in paper/electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later.  |  |                           |                           |                         |        |   |  |       |   |

**Data / Parameter Table 3.**

|  |  |
|--|--|
| <b>Data / Parameter:</b>   | Replacing fossil fuels with renewable sources of energy (ENR07)  |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact. | The wind power project replaces fossil fuel with the renewable wind energy for the power generation by installing the wind power plant which would have been otherwise generated from the fossil fuel dominant grid connected power plants in the absence of the project activity. |

Project Submission Form

|  |  |  |
|--|--|--|
| Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG |  |  |
|  | Parameter to be monitored  | Quantum of electricity generated   |
|  | Frequency of monitoring  | Monitored continuously and recorded on a monthly basis   |
|  | Legal /regulatory / corporate limits (if any)  | Energy Conservation Act 2001   |
|  | QA/QC  | <p>The meters are approved, tested &amp; sealed by the State Utility and are in the custody of State Utility. The metering arrangement, accuracy class of meters, calibration frequency is under control of state electricity board and GCC Project owner do not have any control on it. The calibration of all the meters is planned to be undertaken at required intervals (once in five years) and faulty meters will be duly replaced immediately. The meters will be of accuracy class 0.2s or 0.5s.</p> <p>The net electricity supplied/exported to the grid can be obtained from the record of Monthly Joint Meter Reading / Bill of Supply/Invoice based on Monthly Generation Report.</p> |
| Remarks  | Data will be archived in paper/electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later. |  |

**S+ Assessment  
Data / Parameter Table 4.**

|  |  |
|--|--|
| <b>Data / Parameter:</b>   | Long-term jobs (> 10 year) created/ lost (SJ01)  |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact. | Project activity creates direct long-term employment for project lifetime of 25 years. Since the project activity results in employment in compliance to regulation of country, thereby result in positive social impact. Therefore, there is no related social/ SDG risk associated with the long-term jobs. Long term employment generation contributes positively to SDG 8. |

Project Submission Form

|  |  |   |
|--|--|---|
| 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 (> 1 year) created   |
|  | Frequency of monitoring  | Yearly  |
|  | Legal /regulatory / corporate limits (if any)  | Not applicable  |
|  | QA/QC  | Information relating to number of persons employed/ continuing employment during any particular year will be cross verified from the employment contract/salary slips |
| Remarks  | Data will be archived in paper/electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later. |   |

**Data / Parameter Table 5.**

|  |  |  |
|--|--|--|
| <b>Data / Parameter:</b>   | New short-term jobs (< 1 year) created/ lost (SJ02)  |  |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.                   | Project activity created short term jobs for less than year during the project construction period. Since the project activity results in short-term employment in compliance to regulation of country, thereby result in positive social impact. Therefore, there is no related social/ SDG risk associated with the long-term jobs. Long term employment generation contributes positively to SDG 8. |  |
| Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG |  |  |
|  | Parameter to be monitored  | New short-term jobs (< 1 year) created   |
|  | Frequency of monitoring  | Yearly   |
|  | Legal /regulatory / corporate limits (if any)  | Not applicable   |
|  | QA/QC  | The number of temporary employments can be cross verified from the construction work records and employment records. |
| Remarks  | Data will be archived in paper/electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later.   |  |

**Data / Parameter Table 6.**

|  |   |                           |  |                         |        |   |                |       |  |
|--|---|---------------------------|--|-------------------------|--------|---|----------------|-------|--|
| <b>Data / Parameter:</b>   | Specialized training / education to local personnel (SE01)  |                           |  |                         |        |   |                |       |  |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.                   | Project involves training of new people on project technology. Project owner confirms that by training the people on new technology it will upgrade their skills and creates positive impact.   |                           |  |                         |        |   |                |       |  |
| 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>Parameter to be monitored</td> <td>Training sessions for employees on new technologies implemented in the project</td> </tr> <tr> <td>Frequency of monitoring</td> <td>Yearly</td> </tr> <tr> <td>Legal /regulatory / corporate limits (if any)</td> <td>Not applicable</td> </tr> <tr> <td>QA/QC</td> <td>The training sessions or skills imparted in the employees will be cross verified through the office records.</td> </tr> </table> | Parameter to be monitored | Training sessions for employees on new technologies implemented in the project | Frequency of monitoring | Yearly | Legal /regulatory / corporate limits (if any) | Not applicable | QA/QC | The training sessions or skills imparted in the employees will be cross verified through the office records. |
| Parameter to be monitored  | Training sessions for employees on new technologies implemented in the project  |                           |  |                         |        |   |                |       |  |
| Frequency of monitoring  | Yearly  |                           |  |                         |        |   |                |       |  |
| Legal /regulatory / corporate limits (if any)  | Not applicable  |                           |  |                         |        |   |                |       |  |
| QA/QC  | The training sessions or skills imparted in the employees will be cross verified through the office records.  |                           |  |                         |        |   |                |       |  |
| Remarks  | Data will be archived in paper & electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later.  |                           |  |                         |        |   |                |       |  |

**Data / Parameter Table 7.**

|  |   |                           |   |                         |        |   |                |       |   |
|--|---|---------------------------|---|-------------------------|--------|---|----------------|-------|---|
| <b>Data / Parameter:</b>   | Project-related knowledge dissemination effective or not (SE03)   |                           |   |                         |        |   |                |       |   |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.                   | Project activity transfers knowledge on new renewable energy technology. Project proponent employees around 50 people to work on the operation and maintenance of the project during its lifetime. Project owner keep training them on the new technology installed in the project and its operation and maintenance.   |                           |   |                         |        |   |                |       |   |
| 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>Parameter to be monitored</td> <td>Operation and maintenance of the project by imparting knowledge in employees.</td> </tr> <tr> <td>Frequency of monitoring</td> <td>Yearly</td> </tr> <tr> <td>Legal /regulatory / corporate limits (if any)</td> <td>Not applicable</td> </tr> <tr> <td>QA/QC</td> <td>This parameter can be monitored through training records and interview with plant O&amp;M team.</td> </tr> </table> | Parameter to be monitored | Operation and maintenance of the project by imparting knowledge in employees. | Frequency of monitoring | Yearly | Legal /regulatory / corporate limits (if any) | Not applicable | QA/QC | This parameter can be monitored through training records and interview with plant O&M team. |
| Parameter to be monitored  | Operation and maintenance of the project by imparting knowledge in employees.   |                           |   |                         |        |   |                |       |   |
| Frequency of monitoring  | Yearly  |                           |   |                         |        |   |                |       |   |
| Legal /regulatory / corporate limits (if any)  | Not applicable  |                           |   |                         |        |   |                |       |   |
| QA/QC  | This parameter can be monitored through training records and interview with plant O&M team.   |                           |   |                         |        |   |                |       |   |

|         |  |
|---------|--|
| Remarks | Data will be archived in paper & electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later. |
|---------|--|

**Assessment of SDG Level**

**Data / Parameter Table 8.**

|  |   |  |
|--|---|--|
| <b>Data / Parameter:</b>   | SDG 5- Achieve gender equality and empower all women and girls  |  |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.                   | No discrimination against women. Equal pay for work of equal value for both men and women   |  |
| Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG |   |  |
|  | Parameter to be monitored   | No discrimination against women  |
|  | Frequency of monitoring   | Yearly   |
|  | Legal /regulatory / corporate limits (if any)   | Not applicable   |
|  | QA/QC   | Project owner implement and maintain the HR policy to ensure that no gender discrimination will be entertained while employing the workforce and paying the wages for the project activity to both men and women employees |
| Remarks  | Data will be archived in paper & electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later.                                    |  |

**Data / Parameter Table 9.**

|  |   |
|--|---|
| <b>Data / Parameter:</b>   | SDG 7- Ensure access to affordable, reliable, sustainable and modern energy for all   |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact. | The project generates electricity from the sustainable and renewable wind source and contributes to increase the share of renewable energy mix in the global energy mix.  |

|  |  |   |
|--|--|---|
| Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG |  |   |
|  | Parameter to be monitored  | Amount of renewable energy supplied to grid for consumption.  |
|  | Frequency of monitoring  | Monitored continuously and recorded Monthly   |
|  | Legal /regulatory / corporate limits (if any)  | Not Applicable  |
|  | QA/QC  | The meters used for monitoring of the net renewable energy supplied to the grid are calibrated regularly in accordance to the state/central govt norms. |
| Remarks  | Data will be archived in paper/electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later. |   |

**Data / Parameter Table 10.**

|  |  |  |
|--|--|--|
| <b>Data / Parameter:</b>   | Goal 8. Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all  |  |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.                   | Project activity supports creation of short term and long-term job opportunities during the construction and operation of the project activity. Supports economic productivity through technology up gradation and innovation through training of labour in highly intensive sector. |  |
| Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG |  |  |
|  | Parameter to be monitored  | Number of jobs created due to the project activity   |
|  | Frequency of monitoring  | Yearly   |
|  | Legal /regulatory / corporate limits (if any)  | Not applicable   |
|  | QA/QC  | Number of persons employed will be assessed/estimated from the employment record and cross verified from employment contract and payslips. Maintains company HR policy to create standard operating procedures (SOPs) to follow and maintain safe and secure work environment. |
| Remarks  | Data will be archived in paper/electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later.   |  |



**Data / Parameter Table 11.**

|  |  |                           |  |                         |   |   |                |       |   |
|--|--|---------------------------|--|-------------------------|---|---|----------------|-------|---|
| <b>Data / Parameter:</b>   | Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation  |                           |  |                         |   |   |                |       |   |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.                   | Project activity involves up gradation to advanced WTG technology which is clean and resilient infrastructure from the conventional fossil fuel-based power plant technology. Supports advanced industrialization by providing zero greenhouse gas and nonpolluting clean electricity. Support industrialization through local hiring, procurement, and training and skills development.   |                           |  |                         |   |   |                |       |   |
| 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>Parameter to be monitored</td> <td>Operation and maintenance of the power plant</td> </tr> <tr> <td>Frequency of monitoring</td> <td>Continuous monitoring and regular maintenance</td> </tr> <tr> <td>Legal /regulatory / corporate limits (if any)</td> <td>Not applicable</td> </tr> <tr> <td>QA/QC</td> <td>O&amp;M team monitors the real time generation from the plant and calculated equivalent CO<sub>2</sub> reductions. Plant outage and grid availability can be monitored through real-time scada data and O&amp;M records.</td> </tr> </table> | Parameter to be monitored | Operation and maintenance of the power plant | Frequency of monitoring | Continuous monitoring and regular maintenance | Legal /regulatory / corporate limits (if any) | Not applicable | QA/QC | O&M team monitors the real time generation from the plant and calculated equivalent CO <sub>2</sub> reductions. Plant outage and grid availability can be monitored through real-time scada data and O&M records. |
| Parameter to be monitored  | Operation and maintenance of the power plant   |                           |  |                         |   |   |                |       |   |
| Frequency of monitoring  | Continuous monitoring and regular maintenance  |                           |  |                         |   |   |                |       |   |
| Legal /regulatory / corporate limits (if any)  | Not applicable   |                           |  |                         |   |   |                |       |   |
| QA/QC  | O&M team monitors the real time generation from the plant and calculated equivalent CO <sub>2</sub> reductions. Plant outage and grid availability can be monitored through real-time scada data and O&M records.  |                           |  |                         |   |   |                |       |   |
| Remarks  | Data will be archived in paper/electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later.   |                           |  |                         |   |   |                |       |   |

**Data / Parameter Table 12.**

|  |   |
|--|---|
| <b>Data / Parameter:</b>   | Goal 13. Take urgent action to combat climate change and its impacts  |
| 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 related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact. | Project activity generates renewable energy-based electricity and mitigates the CO <sub>2</sub> emissions which would have been generated from the fossil fuel-based power plants.  |

|  |  |  |
|--|--|--|
| Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG |  |  |
|  | Parameter to be monitored  | Amount of greenhouse emission avoided is calculated based on monitored quantity of the animal manure composted and quantum of fossil fuel and electricity consumed for its production. |
|  | Frequency of monitoring  | The quantum of greenhouse gas combusted is monitored on a monthly basis  |
|  | Legal /regulatory / corporate limits (if any)  | Not applicable   |
|  | QA/QC  | The parameter is calculated based on the monitored data/parameter.   |
| Remarks  | Data will be archived in paper/electronically for a period of 2 years beyond the end of crediting period or of the last issuance of credits for this project activity, whichever occurs later. |  |

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

>> There were no data and parameters identified that have negative impacts on the project activity. Hence there are no data and parameters to be monitored for E+/S+ assessments for negative impacts.

|  |   |    |
|--|---|----|
| <b>Data / Parameter:</b>   | <b>NA</b>   |    |
| Purpose:   | <i>To demonstrate compliance of XXXX 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.</i> |    |
| Describe the related environment /social/ SDG risk or SDG impact as a function of likelihood of occurrence and severity of impact.                   | NA  |    |
| Describe the parameters to be monitored to demonstrate compliance with requirements to demonstrate “harmless” condition or demonstrate Impact on SDG |   |    |
|  | Parameter to be monitored   | NA |
|  | Frequency of monitoring   | NA |
|  | Legal /regulatory / corporate limits (if any)   | NA |
|  | QA/QC   | NA |

| Program of Risk Management Actions to mitigate risk related to aspect (if any for aspects assessed to be harmful) | NA                           |                    |                |                      |  |                                  |                                   |
|---|------------------------------|--------------------|----------------|----------------------|--|----------------------------------|-----------------------------------|
|   | 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                            |                    |                |                      |  |                                  |                                   |
|   | 2                            |                    |                |                      |  |                                  |                                   |
|   | 3                            |                    |                |                      |  |                                  |                                   |
|   | 4                            |                    |                |                      |  |                                  |                                   |
|   | 5                            |                    |                |                      |  |                                  |                                   |
|   | 6                            |                    |                |                      |  |                                  |                                   |
|   | Date of Closing the Program: |                    |                |                      |  |                                  |                                   |
|   |                              |                    |                |                      |  |                                  |                                   |

### B.7.3. Sampling plan

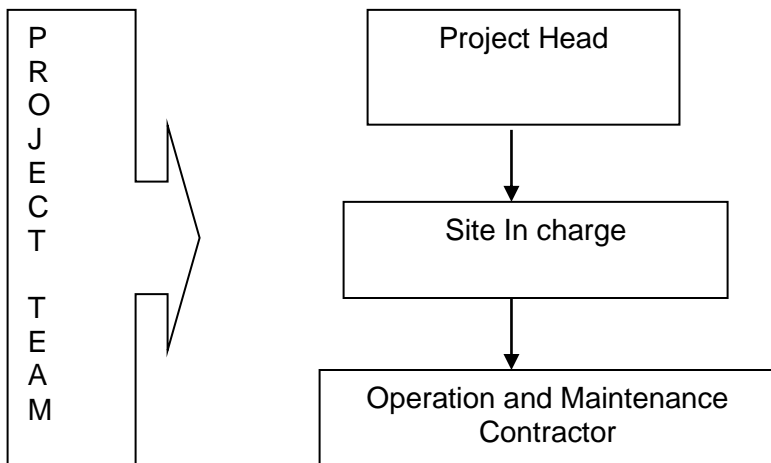
Not Applicable

### B.7.4. Other elements of the monitoring plan

The project activity is operated and managed by the project proponent with the help of site in-charge (personnel from the Wind Turbine Manufacturer and site O & M contractor (personnel from the wind turbine manufacturer). For the accurate execution of the Project activity a project team will be constructed. The wind power project abides and will abide by all regulatory and statutory requirements as prescribed under the state and central laws and regulations. The project team is delegated with the responsibility of monitor and documents the electricity generated and also safe keeping of the recorded data. Based on the data for electricity generation the project team in consultation with associated consultants will calculate the emission reductions.

### Monitoring roles and responsibilities:

The data for the project is compiled by the O&M Contractor and subsequently stored by the PP, the reporting and data flows as per the below mentioned flow chart starting from Site O&M team which monitors day to day operational data and monthly recording. The reporting responsibilities for the project are described below;



The Site In-charge will be responsible for carrying out internal auditing and QA/QC. All the values from generation record will be checked with JMR and invoices for consistency. In case there are any non-conformances identified. The Site In-charge will investigate the error and revise the record to correct it. In any case where values have slightest of variation in different records the most conservative value will be taken in the project monitoring report.

| Designation   | Responsibilities   |
|---|--|
| Project Head  | Performance reviews  |
| Site In charge  | <ul style="list-style-type: none"> <li>• Operation, Monitoring and Verification of Data</li> <li>• Data Recording</li> <li>• Storage of data</li> <li>• Review of reported data</li> </ul> |
| Operation and Maintenance Contractor (personnel from third party) | <ul style="list-style-type: none"> <li>• Operation and Maintenance</li> <li>• Storage of data</li> <li>• Data Recording</li> </ul>   |

**Personal Training:**

The project employs qualified and experienced persons for plant operation. The training period shall be for three months, as this would be adequate and necessary to ensure proper imparting of the objective. The training course will be thoroughly and meticulously designed, highlighting the objectives, salient features, operational aspects and trouble shooting.

Emergency preparedness: In case Main meter or Check meter is found to be outside the acceptable limits of accuracy or faulty or not functioning properly, it will be repaired, recalibrated or replaced as soon as possible. In the event that the Main meter is not in service as a result of maintenance, repairs or testing, the Check meter will be used for readings

**Data recording & archiving:** The project proponent shall maintain data both in electronic form and hard copies. The monitored data shall be archived till 2 years after the completion of crediting period.

**Monitoring Process:**

Monthly Joint meter reading is taken from energy meters installed at each feeder at pooling station and bulk energy meter installed at the substation by representative of DISCOM and O&M team/service provider (on behalf of the project proponent). It must be noted here that the meter readings as mentioned above shall be calculated as the product of meter multiplication factor and the difference of the current and previous meter readings. There are two different JMR statement will be prepared for the project

**Bulk Meter JMR statement:** Export & Import reading at the bulk meter installed at substation will be recorded in this.

**Feeder JMR statement:** Import & export reading of the energy meter reading installed at each feeder in the pooling station will be recorded. Also, the net electricity supplied from each feeder will be calculated as below: Net energy supplied = Feeder Export – Feeder Import – Transmission loss

## 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 Commercial Operation Date (COD) of the earliest commissioning date 13 WTGs commissioned. i.e 24/03/2016

### C.2. Expected operational lifetime of the Project Activity

25 Years

### C.3. Crediting period of the Project Activity

#### C.3.1. Fixed crediting period

Crediting period is fixed for 10 years from Start date of the crediting period

As per the paragraph 38 of the project standard V3.0, start of commercial operations has been considered as the start date. Hence project commissioning date (COD), on which project is connected to grid and started generating power and exporting to the grid there by started generating GHG emission reductions is considered as start date.

The start date for this project is considered as 24/03/2016 which is the earliest commissioning date of the project.

#### C.3.2. Duration of the crediting period

24/03/2016 to 23/03/2026

## 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<sup>18</sup>.

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.

### **D.2. Environmental impact assessment**

The guidelines on Environmental Impact Assessment have been published by Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India (GOI) under Environmental Impact Assessment notification 14/09/2006. 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**

The main purpose of the environment and social safeguard assessment is to identify, evaluate and manage environmental and social impacts that may arise due to implementation and operation of the project. The wind power project is not likely to have significant adverse environmental and social impacts during the construction & operation period of the project activity. Further, 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.

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E.1. Environmental safeguards

| 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<br><br>(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 <sup>rd</sup> 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) | Ex- Ante description and justification/explanation of the scoring of the environmental impact   | Verification Process  |                             |
| <b>Environmental Aspects on the identified categories<sup>15</sup> indicated below.</b> | Indicators for environmental impacts | 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. | Describe the applicable national regulatory requirements / legal limits / voluntary corporate limits related to the identified risks of environmental impacts. | If no environmental impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as <b>Not Applicable</b> | 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, | 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 un-safe) | 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 <b>'Harmful'</b> at least to a level that is in compliance with applicable legal/regulatory requirements or industry best practice or stricter voluntary corporate requirements | 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 <b>Harmful</b> . | 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. | -1<br>0<br>+1  | 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. | 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. |                             |

<sup>15</sup> 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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|  |                                  |   |   |   |   |  |                      |                       |                                       |                |  |                                       |
|--|----------------------------------|---|---|---|---|--|----------------------|-----------------------|---------------------------------------|----------------|--|---------------------------------------|
|  |                                  |   |   |   | then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as <b>Harmless</b> /If the project has a positive impact on the environment mark it as "harmless" as well. | and shall be indicated as <b>Harmful</b> |                      |                       |                                       |                |  |                                       |
| <b>Reference to paragraphs of Environmental and Social Safeguards Standard</b> |                                  | 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) |
| <b>Environment - Air</b>   | SO <sub>x</sub> emissions (EA01) | The wind power project does not cause any SO <sub>x</sub> emissions in the project scenario. However, in the baseline scenario (grid) some of the fossil fuel power plants may have emitted SO <sub>x</sub> 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 occurs in the project scenario. Hence it is not harmful. | No action required.   | Not applicable. No action required       | Not applicable       | Not Applicable        | Not Applicable                        | Not Applicable | With reference to the CPCB modified direction No. B29012/ES S(CP A)/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.<br><br>However, in the baseline scenario |                                       |

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|--|--|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|--|
|  |  |  |                |                |                |                |                |                |                |                | (grid) some of the fossil fuel power plants may have emitted SOx 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>NO<sub>x</sub> emissions (EA02)</i> | The wind power project neither causes any NOx emissions in the project Scenario nor avoids the occurrence of the same in the absence of the project activity. Hence not applicable | The Air (Prevention & Control of Pollution) Act 1981 | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | With reference to the CPCB modified direction No. B29012/ES S(CP A)/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<br><br>However, the in the baseline scenario (grid) some of the fossil NA Project Submission Form 78 of 119 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 |  |

Project Submission Form

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|--|--|--|--|----------------|----------------|----------------|----------------|----------------|---|----------------|--|--|
|  |  |  |  |                |                |                |                |                |   |                | quantified and therefore this parameter will not be scored   |  |
| <i>CO<sub>2</sub> emissions (EA03)</i> | The project reduces CO <sub>2</sub> emissions since it reduces the amount of fossil fuel used. In case of "no project", stated amount of electricity would be generated from fossil fuels and cause air pollution. | 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 harmless | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Continuous measuring for electricity generation will be done by using electricity meters. Therefore, emission reduction calculations will be done according to the generation values. | +1             | With reference to the CPCB modified direction No. B29012/ES S(CP A)/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<br><br>However, in the baseline scenario (grid) some of the fossil fuel power plants may have emitted CO <sub>2</sub> 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. |  |
| <i>CO emissions (EA04)</i>             | The wind power project neither causes any CO emissions in the  | The Air (Prevention & Control of   | Not Applicable   | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable  | Not Applicable | With reference to the CPCB modified direction No.  |  |

Project Submission Form

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|--|--|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--|--|
|  | project. Scenario nor avoids the occurrence of the same in the absence of the project activity. Hence not applicable                       | Pollution) Act 1981                                  |                |                |                |                |                |                |                |                | <p>B29012/ESS(CP A)/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 NA Project Submission Form 78 of 119 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.</p> |  |
| <i>Suspended particulate matter (SPM) emissions (EA05)</i> | The wind power project does not contain any suspected particulate matter (SPM) emissions   | The Air (Prevention & Control of Pollution) Act 1981 | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable   |  |
| <i>Fly ash generation (EA06)</i>                           | The wind power project does not cause any fly ash emissions in the project. Scenario. However, in the baseline scenario (grid) some of the | The Air (Prevention & Control of Pollution) Act 1981 | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | With reference to the CPCB modified direction No. B29012/ESS(CP A)/2015-16; dated March 07, 2016 (Appendix   |  |

Project Submission Form

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|---|----------------|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|--|
|   |                | fossil fuel power plants may have emitted flyash emissions in the absence of the project activity. |                |                |                |                |                |                |                |                | <p>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 NA Project Submission Form 78 of 119 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.</p> |  |
| <i>Non-Methane Volatile Organic Compounds (NMVOCs) (EA07)</i> | Not Applicable | The Air (Prevention & Control of Pollution) Act 1981   | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | With reference to the CPCB modified direction No. B29012/ESS(CP A)/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  |  |

Project Submission Form

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|-------------|----------------|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|--|
|             |                |  |                |                |                |                |                |                |                |                | <p>White category of industries.</p> <p>However, the in the baseline scenario (grid) some of the fossil NA Project Submission Form 78 of 119 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.</p>   |  |
| Odor (EA08) | Not Applicable | The Air (Prevention & Control of Pollution) Act 1981 | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | <p>With reference to the CPCB modified direction No. B29012/ESS(CP A)/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 NA Project Submission Form 78 of 119 fuel power plants may have emitted NOx emissions,</p> |  |

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|-------------------------------|--|--|----------------|---|----------------|--|--|--|----------------|---|--|
|                               |  |  |                |   |                |  |  |  |                | 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> | Since the wind power project contains the rotational blades with mechanical gear it will create some noise in the region during some times when the wind shear is changing its direction. Hence it may have the negative impact on the local people. | Noise (Regulation and Control) Rules 2000 amended in 2010) As per the legal regulation the noise levels in the residential area is 55dB in the Day time and 45 dB in the night time. <sup>16</sup> | Not Applicable | Though the project activity creates noise during the operational period. To mitigate the impact on the local community Project proponent has chosen the location away from the local habitat. | Not Applicable | Project owner has already chosen the project location away from the local habitat to mitigate the reach of noise to the local village people. However, Project owner will keep interview the local people and maintain the grievance register at the project site office and local panchayat office to register any compliant/concerns regarding the project activity. | Project owner has already taken the mitigation action during the implementation of the project. However, Project owner will keep interview the local people and maintain the grievance register at the project site office and local panchayat office to register any compliant/concerns regarding the project activity. | Noise pollution levels cannot be monitored. However, Project owner will keep interview the local people and maintain the grievance register at the project site office and local panchayat office to register any compliant/concerns regarding the project activity. | Not applicable | Project owner has already chosen the project location away from the local habitat to mitigate the reach of noise to the local village people. However Project owner will keep interview the local people and maintain the grievance register at the project site office and local panchayat office to register any compliant/concerns regarding the project activity. |  |

<sup>16</sup><https://parivesh.nic.in/writereaddata/ENV/noisepollution/noise1.pdf>

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|---------------------------|--|----------------|---|----------------|---|--------------------|----------------|----------------|--------------------|--------------------|---|--|
|                           |  |                |   |                | the residential area nearer to the project area are within the statutory limits of the host country. Hence there is no impact on the society due to the implementation of the projects activity |                    |                |                |                    |                    |   |  |
|                           | <i>Others (EA10)</i>   | Not Applicable | Not Applicable                                      | Not Applicable | Not Applicable  | Not Applicable     | Not Applicable | Not Applicable | Not Applicable     | Not Applicable     | Not Applicable  |  |
|                           | <i>Add more rows if required and corresponding notation with EA as prefix)</i> |                |   |                |   |                    |                |                |                    |                    |   |  |
|                           |  |                |   |                |   |                    |                |                |                    |                    |   |  |
| <b>Environment - Land</b> | <i>Solid waste Pollution from Plastics (EL-01)</i>                             | Not Applicable | Plastic Waste (Management and Handling) Rules, 2016 | Not Applicable | No Action required  | No Action required | Not Applicable | Not Applicable | No Action required | Not Applicable     | No significant plastic waste is expected from the project activity during operational phase Hence,, this parameter will not be scored |  |
|                           | <i>Solid waste Pollution from Hazardous</i>                                    | Not Applicable | Hazardous and Other Wastes (Management and          | Not Applicable | No Action required  | No Action required | Not Applicable | Not Applicable | No Action required | No Action required | As per MoEFCC notification dated 01.03.2019 (G.S.R. 178(E)) the Occupier  |  |



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|  | s wastes (EL02)                                      |                | Transboundary Movement) Amendment Rules, 2016 |                |                    |                    |                |                |                |                    | <p>(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 and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.</p> <p>However, project 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. Hence,, this parameter will not be scored</p> |  |
|  | Solid waste Pollution from Bio-medical wastes (EL03) | Not Applicable | Bio-medical Waste Management Rules, 2016      | Not Applicable | No Action required | No Action required | Not Applicable | Not Applicable | Not Applicable | No Action required | No significant bio-medical waste will be generated from the project activity. Hence,, this parameter will not be scored.  |  |

Project Submission Form

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|---|----------------|---|----------------|--------------------|--------------------|--|---|---|----------------|---|
| <i>Solid waste Pollution from E-wastes (EL04)</i>   | Not Applicable | E-waste (Management and Handling) Rules   | -              | Harmless           | -                  | Records all electrical & electronics waste of projects sites and filling of return | Project Management is responsible to maintain records and filling of returns as per applicable law                          |   |                | Being the wind power project no significant E-waste will be generated from the project activity. Hence,, this parameter will not be scored  |
| <i>Solid waste Pollution from Batteries (EL05)</i>  | Not Applicable | Batteries (Management and Handling) Rules   | -              | Harmless           | -                  | -  | Records all electrical & electronics waste of projects sites and filling of return  | Project management is responsible to maintain records and filling of returns as per applicable laws |                | Being the wind power project no significant battery waste will be generated from the project activity. 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  | -              | Harmless           |                    | Sold waste from the project activity must be disposed as applicable law            | Project Management is responsible to maintain records and dispose all products after ending lifecycle as per applicable law |   |                | Project management is responsible to maintain records and dispose all products after ending lifecycle as per applicable law and it will not 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 the seriousness of contamination | Not Applicable | No action required | No action required | Not Applicable   | Not Applicable  | No action required  | Not Applicable | No significant soil pollution from chemicals during operation phase of the project activity However, in the baseline scenario (grid) some of the fossil fuel power plants may have emitted soil emissions, on which data is not available and can't be quantified and therefore the emission reductions |

Project Submission Form

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|----------------------------|---|----------------|---|----------------|--------------------|--------------------|----------------|----------------|----------------|--------------------|---|--|
|                            |   |                |   |                |                    |                    |                |                |                |                    | 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> | Not Applicable | In India, there are no comprehensive soil quality regulations and standards to ascertain the seriousness of contamination | Not Applicable | No action required | No action required | Not Applicable | Not Applicable | Not Applicable | No action required | There is no chance of soil erosion during operation phase of the project activity. However, 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>  | Not Applicable | 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>  |                |   |                |                    |                    |                |                |                |                    |   |  |
|                            |   |                |   |                |                    |                    |                |                |                |                    |   |  |
| <b>Environment - Water</b> | <i>Reliability / accessibility of water supply (EW01)</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 | No Action required | Water requirement is nil for the wind power projects. However, in the baseline scenario (grid) some of the fossil fuel power plants may have emitted accessibility of   |  |

Project Submission Form

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|---|----------------|--|----------------|--------------------|--------------------|----------------|----------------|----------------|--------------------|--------------------|---|--|
|   |                |  |                |                    |                    |                |                |                |                    |                    | 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     | No Action required | 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>                        | Not Applicable | The Water (Prevention & Control of Pollution) Act 1974                               | Not Applicable | No action required | Not Applicable     | Not Applicable | Not Applicable | Not Applicable | No action required | Not Applicable     | No waste water will be generated from the wind power projects.<br><br>However, the in the baseline scenario (grid) some of the fossil fuel power plants may have  |  |

Project Submission Form

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|  |                |  |                |                    |                |                |                |                |                    |                |  |  |
|--|----------------|--|----------------|--------------------|----------------|----------------|----------------|----------------|--------------------|----------------|--|--|
|  |                |  |                |                    |                |                |                |                |                    |                | 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.   |  |
| <i>Wastewater discharge without/with insufficient treatment (EW04)</i> | Not Applicable | The Water (Prevention & Control of Pollution) Act 1974 | Not Applicable | No action required | Not Applicable | Not Applicable | Not Applicable | Not Applicable | No action required | Not Applicable | No waste water will be generated from the wind power projects.<br><br>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 |  |
| <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 | Not Applicable | Not Applicable | Not Applicable | Not Applicable | No action required | Not Applicable | No waste water will be generated from the wind power projects. 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  |  |

Project Submission Form

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|--|---|----------------|---|----------------|--------------------|--------------------|----------------|----------------|--------------------|----------------|--|--|
|  |   |                |   |                |                    |                    |                |                |                    |                | quantified and therefore the emission reductions cannot be quantified and therefore this parameter will not be scored.   |  |
|  | <i>Discharge of harmful chemicals like marine pollutants / toxic waste (EW06)</i> | N/A            | N/A   | N/A            | N/A                | N/A                | N/A            | N/A            | N/A                | N/A            | N/A  |  |
|  | <i>Others (EW07)</i>  |                |   |                |                    |                    |                |                |                    |                |  |  |
|  | <i>Add more rows if required</i>  |                |   |                |                    |                    |                |                |                    |                |  |  |
|  |   |                |   |                |                    |                    |                |                |                    |                |  |  |
| <b>Environment – Natural Resources</b> | <i>Conserving mineral resources (ENR01)</i>                                       | Not Applicable | In India, there are no conserving mineral resources regulations and standards to ascertain            | Not Applicable | No action required | No action required | Not Applicable | Not Applicable | No action required | Not Applicable | 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 | No action required | Not Applicable | 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 |  |

Project Submission Form

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|--|--|--|-----------------------|-----------------------|--|-----------------------|---|-----------------------|---|----------|---|--|
|  | <p><i>Protecting / enhancing species diversity (ENR03)</i></p> | <p>There is a chance of bird hits/bird mortality in the project area</p> | <p>Not Applicable</p> | <p>Not Applicable</p> | <p>Due chances of bird hits. mortality occurring in the project area due to the rotational blades of the turbine it has the negative impact on the environment . However There were no endangered species found in the project boundary, The project area very sparsely vegetated natural flora, and the faunal diversity too was found to be predominantly dominated by birds of nativity to the region, and no migratory birds were spotted in the project</p> | <p>Not Applicable</p> | <p>No action required since there are no Notified ecologically sensitive locations or wildlife corridors are not present within the study area of 5km from each of the windmill site locations. No wildlife corridors are located all along the project area.</p> | <p>Not Applicable</p> | <p>Though the chances of bird hits are less project owner keep monitors the bird mortality if any in the bird hit register.</p> | <p>0</p> | <p>Though the impact is negative on the environment . Being the project location is already isolated area from the vicinity of ecologically sensitive locations or wildlife corridors this is scored.</p> |  |
|--|--|--|-----------------------|-----------------------|--|-----------------------|---|-----------------------|---|----------|---|--|

Project Submission Form

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|--|----------------|---|----------------|--------------------|--|----------------|----------------|--------------------|----------------|--|--|--|
|  |                |   |                |                    | area. Notified ecologically sensitive locations or wildlife corridors are not present within the study area of 5km from each of the windmill site locations. No wildlife corridors are located all along the project area. Hence the impact is harmless. |                |                |                    |                |  |  |  |
| <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 | No action required | Not Applicable | No forest land has been used for the project activity. Therefore this parameter will not be scored.  |  |  |
| <i>Protecting / enhancing other depletable natural resources (ENR05)</i> | Not Applicable | National Forest Policy (Revised) 1988     | Not Applicable | No action required | No action required   | Not Applicable | Not Applicable | No action required | Not Applicable | The project activity has been implemented in barren land and no trees have been 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 | Not Applicable                            | Not Applicable | Not Applicable     | Not Applicable   | Not Applicable | Not Applicable | Not Applicable     | Not Applicable | Not Applicable   |  |  |



Project Submission Form

|   |  |  |   |                           |                           |                           |                           |  |                       |  |                       |
|---|--|--|---|---------------------------|---------------------------|---------------------------|---------------------------|--|-----------------------|--|-----------------------|
| <p><i>Replacing fossil fuels with renewable sources of energy (ENR07)</i></p> | <p>The wind power project replaces fossil fuel with the renewable wind energy for the power generation by installing the wind power plant which would have been otherwise generated from the fossil fuel dominant grid connected power plants in the absence of the project activity</p> | <p>No legal standard available.</p>  | <p>Project activity causes positive impact on the environment by replacing the fossil fuels with the renewable energy sources of energy (WTG). Hence not applicable</p> | <p>Not Applicable</p>     | <p>Not Applicable</p>     | <p>No action required</p> | <p>No action required</p> | <p>Project proponent monitors the value of net electricity generation supplied to the grid as per Monthly Joint Meter Reading Report forms (BForms) Monthly meter readings are taken from the main and check meter installed at metering point and certified by the representatives of SEB Officials and the representatives of the project participant. Ex ante it is estimated that project activity generates 147369. MWh per annum</p> | <p>+1</p>             | <p>No Risk mitigation activity has been applied hence no action required</p> |                       |
| <p><i>Replacing ODS with non-ODS refrigerants (ENR08)</i></p>                 | <p>Not Applicable</p>  | <p>In India, there are no comprehensive regulations and standards to ODS and non ODS</p> | <p>Not Applicable</p>   | <p>No action required</p> | <p>No action required</p> | <p>Not Applicable</p>     | <p>Not Applicable</p>     | <p>No action required</p>  | <p>Not Applicable</p> | <p>No impact Therefore this parameter will not be scored</p>                 | <p>Not Applicable</p> |
| <p><i>Others (ENR09)</i></p>  |  |  |   |                           |                           |                           |                           |  |                       |  |                       |
| <p><i>Add more rows if required</i></p>                                       |  |  |   |                           |                           |                           |                           |  |                       |  |                       |
| <p><b>Net Score:</b></p>  |  | <p>2</p>   |   |                           |                           |                           |                           |  |                       |  |                       |
| <p><b>Project Owner's Conclusion in PSF:</b></p>                              |  | <p>2</p>   | <p>The Project Owner confirms that the Project Activity will not cause any net harm to Environment.</p>   |                           |                           |                           |                           |  |                       |  |                       |

|  |  |
|--|--|
| <b>GCC Project Verifier's Opinion:</b> | 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<br><br>(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<br>(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 <sup>rd</sup> Party Audit   |
|                               |  |   | Not Applicable  | Harmless | Harmful | Operational / Management Controls                            | Monitoring parameter and frequency of monitoring (as per scoring matrix) | Ex- Ante scoring of social impact of the project  | Ex- Ante description and justification/explanation of the scoring of social impact of the project | Verification Process<br><br>Will the Project Activity cause any harm? |
|                               |  |   |   |          |         |  |  |   |   |   |

Project Submission Form

|  |   |  |   |   |  |  |   | Appendix-02)  |               |   |   |
|--|---|--|---|---|--|--|---|---|---------------|---|---|
| <b>Social Aspects on the identified categories<sup>17</sup> indicated below.</b> | Indicators for social impacts                   | Describe and identify actual and anticipated impacts on society and stakeholders, both positive or negative, from all sources 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 | Describe the applicable national regulatory requirements / legal limits or organizational policies or industry best practices related to the identified risks of social impacts | If no social impacts are anticipated, then the Project Activity is unlikely to cause any harm (is safe) and shall be indicated as <b>Not Applicable</b> | 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 <b>Harmless</b> , project having positive impact on society. To the BAU / baseline scenario must also mark their aspect as "harmless" | 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 <b>Harmful</b> | 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 <b>Harmful</b> . | 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. Monitoring parameters can be quantitative or qualitative in nature along with the data source | -1<br>0<br>+1 | 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 | 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.<br><br>Also describe the positive impacts of the project on the society as compared to the baseline alternative or BAU scenario. |
| <b>Reference to paragraphs of Environmental and Social Safeguards Standard</b>   |   | Paragraph 12 (a)   | Paragraph 13 (c)  | Paragraph 13 (d) (i)  | Paragraph 13 (d) (ii)  | Paragraph 13 (d) (iii)   | Paragraph 13 (e) (i)  | Paragraph 12 (c) and Paragraph 13 (f)   | Paragraph 23  |   | Paragraph 24 and Paragraph 26 (a) (ii)  |
| <b>Social -</b>  | Long-term jobs (> 10 year) created/ lost (SJ01) | Project activity creates direct long   | No regulation   | Harmless  | Not applicable   | No action required   | No action required  | Project activity  | +1            | There is no mandatory law to generate   |   |

<sup>17</sup> sourced from the CDM SD Tool and the sample reports are available ( <https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Reports.aspx> )

Project Submission Form

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|-------------|--|---|---------------|----------------|--------------------|--------------------|----------------|---|----|---|--|
| <b>Jobs</b> |  | term employment for project lifetime of 25 years  |               |                |                    |                    |                | creates direct employment for around 25 people per year during the Operation and maintenance of the project activity. Which provides the positive impact on society which would have not been available in the absence of the project activity? It will be monitored through Employment records and PF challans |    | permanent employment from the project activity, however, project proponent has been decided to provide training to the local people & generate permanent employment for local people. Therefore this parameter will be scored                                       |  |
|             | <i>New short-term jobs (&lt; 1 year) created/ lost (SJ02)</i>  | Project activity created short term jobs for less than year during the project construction period. | No regulation | Harmless       | No action required | No action required | Not applicable | Project activity created short term jobs during the construction of the project activity. It can be verified from the construction work records and employment records. Since it is one time impact during the crediting period need not be monitored for the entire crediting period                           | +1 | There is no mandatory law to generate permanent employment from the project activity, however, project proponent has been decided to provide training to the local people & generate permanent employment for local people Therefore this parameter will be scored. |  |
|             | <i>Sources of income generation increased / reduced (SJ03)</i> | Not Applicable  | No regulation | Not applicable | No action required | No action required | No regulation  | Not applicable  | NA | Local income has been increased due to local employment generation from the project activity. But cannot be monitored.  |  |

Project Submission Form

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|-------------------------------------|--|----------------|---|----------------|--------------------|--------------------|----------------|----------------|----|---|--|
|                                     |  |                |   |                |                    |                    |                |                |    | Hence this parameter will not be scored |  |
|                                     | <p><i>Avoiding discrimination when hiring people from different race, gender, ethnics, religion, marginalized groups, people with disabilities (SJ04)</i></p> <p><i>(Human rights)</i></p> | Not Applicable | No regulation   | Not applicable | No action required | No action required | Not applicable | Not applicable | NA | Not applicable                          | It should be ensured that proper and adequate number of toilets is constructed for the Laboure's so that hygienic conditions prevail in the site area. Therefore this parameter will not be scored                                   |
| <b>Social - Health &amp; Safety</b> | <p><i>Disease prevention (SHS01)</i></p>   | Not Applicable | The Factories Act, 1948 & EHS policy of Project Company   | Not applicable | No action required | No action required | Not applicable | Not applicable | NA | Not applicable                          | The project proponent will provide regular safety training to their workers about the accident and risk related to specific works and preventive measures for avoiding accidents at site Therefore this parameter will not be scored |
|                                     | <p><i>Occupational health hazards (SHS02)</i></p>  | Not Applicable | Crime comes under law & order of local government authority and there is no legal requirement from local authority to project proponent to liable to reduce crime | Not applicable | No action required | No action required | Not applicable | Not applicable | NA | Not applicable                          | N/A  |

Project Submission Form

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|---|----------------|--|----------------|--------------------|--------------------|----------------|----------------|----------------|----|--|
| <i>Reducing / increasing accidents/incidents/fatality (SHS03)</i> | Not applicable | Not applicable                                       | Not applicable | Not applicable     | Not applicable     | Not applicable | Not applicable | Not applicable | NA | Use a 2-bin system so that food waste and recyclables viz. paper, plastic, glass, scrap metal waste etc. are segregated and stored in designated waste bins/ containers. Therefore this parameter will not be scored.  |
| <i>Reducing / increasing crime (SHS04)</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/ES S(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, hence it can be assumed that no chance of increasing air pollution from project activity. Therefore this parameter will not be scored |
| <i>Reducing / increasing food wastage (SHS05)</i>                 | Not Applicable | No local regulation available                        | Not applicable | No action required | No action required | Not applicable | Not applicable | Not applicable | NA | Health services are limited in villages falls under project activity. Project proponent shall conduct health camp in all villages as per their CSR commitment throughout the operation time of the project activity Therefore this parameter will not be scored.   |
| <i>Reducing / increasing indoor air pollution (SHS06)</i>         | Not Applicable | No local regulation available                        | Not applicable | No action required | No action required | Not applicable | Not applicable | Not applicable | NA | As per MoEFCC 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   |

Project Submission Form

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|---------------------------|---|--|----------------|--------------------|--------------------|----------------|----------------|----------------|----------------|--|---|--|
|                           |   |  |                |                    |                    |                |                |                |                |  | (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981. However, Project 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. 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 Therefore this parameter will not be scored. |  |
|                           | <i>Efficiency of health services (SHS07)</i>                      | Not Applicable   | Not applicable | No action required | No action required | Not Applicable | Not applicable | Not applicable | NA             | All health & safety issue at project sites to be mitigate as per EHS policy of Project Company and local regulation. Therefore this parameter will not be scored |   |  |
|                           | <i>Sanitation and waste management (SHS08)</i>                    | Not Applicable   | Not applicable | Not applicable     | Not applicable     | Not applicable | Not applicable | Not applicable | NA             | Not applicable   |   |  |
|                           | <i>Other health and safety issues (SHS09)</i>                     |  |                |                    |                    |                |                |                |                |  |   |  |
|                           | <i>Add more rows if required</i>                                  |  |                |                    |                    |                |                |                |                |  |   |  |
| <b>Social - Education</b> | <i>specialized training / education to local personnel (SE01)</i> | Project involves training of new people on project technology. | Not applicable | Not applicable     | Not applicable     | Not applicable | Not applicable | Not applicable | +1             | Project owner confirms that by training the people on new technology it will upgrade their skills and creates positive impact. Hence it will be scored           |   |  |
|                           | <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   |   |  |

Project Submission Form

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|-------------------------|---|---|-------------------------------|--|--------------------|--------------------|----------------|----------------|----------------|--------------------|--|
|                         | <i>Project-related knowledge dissemination effective or not (SE03)</i>        | Project activity transfers knowledge on new renewable energy technology | No mandatory regulation       | No negative impact to the society due to this project activity. Hence not applicable | Not applicable     | Not applicable     | Not applicable | Not applicable | Not applicable | +1                 | Project proponent employees around 50 people to work on the operation and maintenance of the project during its lifetime. Project owner keep training them on the new technology installed in the project and its operation and maintenance. It can be monitored through training records and interview with plant O&M team. Hence this parameter will be scored |
|                         | <i>Other educational issues (SE03)</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 (SE04)</i>                                       |   |                               |  |                    |                    |                |                |                |                    |  |
| <b>Social - Welfare</b> | <i>Improving/ deteriorating working conditions (SW01)</i>                     | Not Applicable  | EHS policy of project company | Not applicable   | No action required | No action required | Not applicable | Not applicable | Not applicable | No action required | There is no chance to deteriorating working conditions as Project Owner will maintain high working culture for their employee with complying EHS guideline & local regulation Therefore this parameter will not be scored  |
|                         | <i>Community and rural welfare (indigenous people and communities) (SW02)</i> | Not Applicable  | CSR Policy of Project Company | Not applicable   | No action required | No action required | Not applicable | Not applicable | Not applicable | Not applicable     | Project owner will provide the basic livelihood needs to the local rural people like sanitation and health and nutritional needs through the company CSR policy. This parameter will not be scored   |
|                         | <i>Poverty alleviation (more people above poverty level) (SW03)</i>           | Not Applicable  | No local regulation           | Not applicable   | No action required | No action required | Not applicable | Not applicable | Not applicable | Not applicable     | The objective of the project company is to assist project sites to reduce poverty and enhance economic growth, human wellbeing, and development effectiveness by addressing the gender disparities and inequalities that are barriers to development ,   |





Project Submission Form

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|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------|
| (SW08)  |                |                |                |                |                |                |                |                |                |                |           |
| Minimum wage protection<br>(Human rights) (SW09)  | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |           |
| Abuse at workplace. (With specific reference to women and people with special disabilities / challenges)<br>(Human rights) (SW10) | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |           |
| Other social welfare issues (SW11)  | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |           |
| Avoidance of human trafficking and forced labour<br>(Human rights) (SW12)   | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |           |
| Avoidance of forced eviction and/or partial physical or economic displacement of IPLCs<br>(Human rights) (CW13)                   | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |           |
| Provisions of resettlement and human settlement displacement<br>(Human rights) (CW14)   | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable | Not Applicable |           |
| Add more rows if required   |                |                |                |                |                |                |                |                |                |                |           |
| <b>Net Score:</b>   |                |                |                |                |                |                |                |                |                |                | <b>+4</b> |

Project Submission Form

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|---|--|
| <b>Project Owner’s Conclusion in PSF:</b> | The Project Owner confirms that the Project Activity will not cause any net harm to society.                                   |
| <b>GCC Project Verifier’s Opinion:</b>    | 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)**

| UN-level SDGs  | UN-level Target   | Declared Country-level SDG   | Defining Project-level SDGs  |   |  |   | GCC Project Verifier’s Conclusion<br><i>(To be included in Project Verification Report only)</i>  |  |
|--|---|--|--|---|--|---|---|--|
|  |   |  | 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><b>Describe UN SDG targets and indicators</b></p> <p>See: <a href="https://unstats.un.org/sdgs/indicators/indicators-list/">https://unstats.un.org/sdgs/indicators/indicators-list/</a></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 | 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 for 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 | Describe the monitoring approach and the monitoring parameters to be applied for each project-level SDG | Describe how the Project Owner has concluded that the project is likely to achieve the identified | Describe whether the project-level SDG target(s) is likely to be achieved by the target date (Yes or No) |

Project Submission Form

|   |  | No  |  |                                 | <i>achieving the defined project-level SDG targets</i>   | <i>indicator and its corresponding target, frequency of monitoring and data source</i>                                    | <i>Project level SDGs target(s).</i> |  |
|---|--|-----|--|---------------------------------|--|---|--------------------------------------|--|
| <b>Goal 1: End poverty in all its forms everywhere</b>  | N/A  | N/A | N/A  | N/A                             | N/A  | N/A   |                                      |  |
| <b>Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture</b>         | N/A  | N/A | N/A  | N/A                             | N/A  | N/A   |                                      |  |
| <b>Goal 3. Ensure healthy lives and promote well-being for all at all ages</b>                                      | N/A  | N/A | N/A  | N/A                             | N/A  | N/A   |                                      |  |
| <b>Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</b> | N/A  | N/A | N/A  | N/A                             | N/A  | N/A   |                                      |  |
| <b>Goal 5. Achieve gender equality and empower all women and girls</b>  | 5.1 End all forms of discrimination against all women and girls everywhere | Yes | Equal pay for work of equal value for both men and women | No discrimination against women | 5.1.1 Project owner implement and maintain the HR policy to ensure that no gender discrimination will be entertained while employing the workforce and | Employment register, complaint register and pay slip<br><br>As per company policy, men and women have equal rights and no |                                      |  |

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|   |   |     |  |  | paying the wages for the project activity to both men and women employees   | discrimination will be tolerated against women   |  |  |
| <b>Goal 6. Ensure availability and sustainable management of water and sanitation for all</b> | N/A   | N/A | N/A  | N/A  | N/A   | N/A  |  |  |
| <b>Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all</b>   | SDG Target 7.2 "By 2030, increase substantially the share of renewable energy in the global energy mix" by the utilization of biomass as a renewable energy source." Indicator 7.2.1 Renewable energy share in the total final energy consumption | Yes | The project generates electricity from the sustainable and renewable wind source and contributes to increase the share of renewable energy mix in the global energy mix. Project uses advanced WTG technology which is cleaner source of energy which avoids the equivalent amount of fossil fuel consumption for the power generation in the absence of the project activity. Project activity thus promotes investment into the cleaner technology-based power generation projects. By installing advanced wind energy technology project owner also promotes upgraded cleaner technology solutions and infrastructure in the power generation sector in the host country. | Project target to generate and feed 71,489 MWh/year wind-based electricity for entire lifetime of the project activity into the INDIAN national grid. Project has already started contributing to the SDG 7 from its start date 24/03/2016 | Project owner ensures and undertake following actions to contribute to the SDGs. 1. Signed Power purchase agreement with consumers to ensure the consumption of generated power by the end consumer. 2.Ensures optimum plant efficiency to reduce outages and maximum generation. 3.Educate customers about consumption patterns to optimize renewable energy use | Project O&M team at project site continuously monitors the Quantity of net electricity generation supplied by the project (Wind) plant. Main and Check meters are installed at the substation by the electricity utility to measure the net exported electricity from the plant. The value of net electricity generation supplied to the grid as per Monthly |  |  |

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|   |  |    |  |  |  | Joint Meter Reading Report forms (BForms) which can be crosschecked from the invoice raised to Consumer                                    |  |  |
| <b>Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</b> | 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value 8.8 Protect labor rights and promote safe and secure working environm | No | Project activity supports creation of short term and long-term job opportunities during the construction and operation of the project activity. Supports economic productivity through technology up gradation and innovation through training of labour in high intensive sector. Project protects labour rights and promotes safe and secure working environments. Supports a transition to a low carbon society through employment training for former fossil fuel industry employees | Project creates new employment and generates income for 25 no of people during the project lifetime. Through Project activity economic development has been achieved in the project location by creating opportunities to the other allied services and indirect employment.<br><br>Project creates new employment and generates income for 25 no of people during the project lifetime. | 1. Employment per the national labour and company law. 2. Maintains company HR policy to create standard operating procedures (SOPs) to follow and maintain safe and secure work environment 3. paying the wages as per the minimum wages act of the country | Project owner monitors the implantation of the policies and employee grievances if any through the separate HR manager and site in charge. |  |  |

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|  | ents for all workers, including migrant workers, in particular women migrants, and those in precarious employment   |     |  |  |  |   |  |  |
| <b>Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</b> | SDG Target 9.4 requires "By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound | YES | Project activity involves up gradation to advanced WTG technology which is clean and resilient infrastructure from the conventional fossil fuel-based power plant technology. Supports advanced industrialization by providing zero greenhouse gas and nonpolluting clean electricity. Support industrialization through local hiring, procurement, and training and skills development. | Project activity involves installation of 27.3 MW wind project in India.<br><br>Project activity reduces 66,513 tCO2 during the crediting period | Project O&M team continuously work to reduce the plant outages and trying to achieve the maximum grid availability to generate and feed the maximum renewable energy to the grid | O&M team monitors the real time generation from the plant and calculated equivalent CO2 reductions. Plant outage and grid availability can be monitored through real-time scada data and O&M records. |  |  |

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|  | technologies and industrial processes, with all countries taking action in accordance with their respective capabilities". Indicator 9.4.1 CO2 emission per unit of value added |     |  |  |  |   |  |  |
| <b>Goal 10. Reduce inequality within and among countries</b>                                 | N/A   | N/A | N/A  | N/A  | N/A  | N/A   |  |  |
| <b>Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable</b> | N/A   | N/A | N/A  | N/A  | N/A  | N/A   |  |  |
| <b>Goal 12. Ensure sustainable consumption and production patterns</b>                       | N/A   | N/A | N/A  | N/A  | N/A  | N/A   |  |  |
| <b>Goal 13. Take urgent action to combat climate change and its impacts</b>                  | SDG Target 13.3 "Improve education, awareness-  | NO  | Project activity generates renewable energy based electricity and mitigates the CO2 emissions which would have been generated from the fossil fuel based power plants. | Project activity involves installation of 27.3 MW wind project in India.<br><br>Project activity reduces 66,513 tCO2e per annum and 665,134 tCO2e during the crediting period. | Ensure optimum generation from the plant to the grid | O&M team monitors the real time generation from the plant and calculated equivalent |  |  |



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|  | <p>raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning". Indicator 13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer and develop</p> |  |  |  |  | <p>CO2 reductions. Main and Check meters are installed at the substation by the electricity utility to measure the net exported electricity from the plant. The value of net electricity generation supplied to the grid as per Monthly Joint Meter Reading Report forms (BForms) the basis for calculation of the emission reductions; which can be crosschecked from the invoice raised to Consumer.</p> |  |  |
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|  | ment actions. |     |     |     |     |     |  |  |
|--|---------------|-----|-----|-----|-----|-----|--|--|
| <b>Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development</b>   | N/A           | N/A | N/A | N/A | N/A | N/A |  |  |
| <b>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</b> | N/A           | N/A | N/A | N/A | N/A | N/A |  |  |
| <b>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</b>            | N/A           | N/A | N/A | N/A | N/A | N/A |  |  |
| <b>Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development</b>   | N/A           | N/A | N/A | N/A | N/A | N/A |  |  |
|  |               |     |     |     |     |     |  |  |

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| SUMMARY   | Targeted | Likely to be Achieved |
|---|----------|-----------------------|
| Total Number of SDGs  | 5        | 5                     |
| Certification label (Bronze, Silver, Gold, Platinum, or Diamond) for the ACCs as defined in the PSF | Platinum | Platinum              |

## **Section G. Local stakeholder consultation**

### **G.1. Modalities for local stakeholder consultation**

>> Local stakeholders were invited by sending invitation letter to the local panchayat office. The consultation was carried out on 18/06/2022 within plant premises. Around 15 Stakeholders consulted in the meeting. The local stakeholder consultation process was carried out through a physical meeting at the project site. As a part of the consultation process, the project representatives explained all stakeholders about the type of development through the project and the technology used for power generation towards enhancing stakeholders' awareness about the project. During the meeting the project representative told about the employment opportunities and other benefits likely to be rendered through this project and its contribution towards fighting against climate change. Also, regular stakeholder engagement is one the key focus at the site. The project stakeholders were totally in support for setting up of these kinds of projects in the region.

### **G.2. Summary of comments received**

>> All the comments and concerned raised by the stakeholders were addressed by the representative by the project owner. Comments raised by the stakeholders have been summarized below.

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

Answer: 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.

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

Answer: 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.

### **G.3. Consideration of comments received**

>> There were no 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**

>>No host country approval is required hence N/A.

## Appendix 1. Contact information of project owners

|                          |  |
|--------------------------|--|
| <b>Organization name</b> | Ushodaya Enterprises Private Limited   |
| <b>Country</b>           | India  |
| <b>Address</b>           | 3 rd Floor, Corporate Building, Ramoji Film City, Anajpur Village, Hayathnagar Mandal, Ranga Reddy, Telangana State -501512, India |
| <b>Telephone</b>         | Mobile:+91-8008535421  |
| <b>Fax</b>               | -  |
| <b>E-mail</b>            | <a href="mailto:gsrinivas@eenadu.net">gsrinivas@eenadu.net</a>   |
| <b>Website</b>           | -  |
| <b>Contact person</b>    | G. Srinivas, Chief Financial Officer and Company Secretary   |

|                          |  |
|--------------------------|--|
| <b>Organization name</b> | Eenadu Television Private Limited  |
| <b>Country</b>           | India  |
| <b>Address</b>           | 3 rd Floor, Corporate Building, Ramoji Film City, Anajpur Village, Hayathnagar Mandal, Ranga Reddy, Telangana State -501512, India |
| <b>Telephone</b>         | Mobile:+91-9391205555  |
| <b>Fax</b>               | -  |
| <b>E-mail</b>            | <a href="mailto:kbc@etv.co.in">kbc@etv.co.in</a>   |
| <b>Website</b>           | -  |
| <b>Contact person</b>    | K Bapineedu Choudary, Chief Executive Officer  |

## Appendix 2. Affirmation regarding public funding

The project activity will not receive any public funding from the parties listed in the Annex I. Also, the project activity will not involve diversion of the Official Development Assistance (ODA)

## Appendix 3. Applicability of methodology(ies)

Please refer section B.2

## Appendix 4. Further background information on ex ante calculation of emission reductions

Not applicable

## **Appendix 5. Further background information on monitoring plan**

Not applicable

## **Appendix 6. Summary report of comments received from local stakeholders**

Refer Section G.2

## **Appendix 7. Summary of de-registered CDM project (Type B)**

Not Applicable

## **Appendix 8. Further information on determination of bundle in project activity**

This project activity is a single bundled project is developed by organizing two wind power projects homogeneous bundle of activities put together, as per the point no.10 of clarification no.1, we have presented below the two-level analysis of homogenous bundles of this bundled project activity.

### **Level-1 analysis - Consideration of key aspects for developing Homogeneous Bundles:**

#### **(i) Similarity in Technological Considerations**

The project activity is same type of technology i.e wind power generation for the purpose of electricity generation and applied the methodology of ACM0002: Grid-connected electricity generation from renewable sources --- Version 20.0

#### **(ii) Similarity in Economic and Policy Considerations**

Activities under this bundle have same additionality approach (investment analysis) as stipulated by the applicable methodology ACM002. Both the project activities utilize same investment analysis method (Equity IRR) and have the same investment decision year, i.e., 2015. Both the projects are located within the geographical area of India and are supplying electricity to the national grid.

#### **(iii) Similarity in Environmental or Methodological Considerations:**

Activities in the bundle are having: i. Application of same methodology- All project activities are applying methodology of renewable electricity generation, i.e., Grid-connected electricity generation from renewable sources ii. Same baseline approach and the outcome- All activities are using the same baseline as explained in the baseline

scenario above iii. Same monitoring approach and parameters- This is explained in detail in section B.7.1 and B.7.2.

As the project activities are similar in afore said criteria therefore, the project activities can be developed into a homogenous bundle.

**Level-2 analysis** – Criteria for differentiating the bundles: Formulate a separate bundle of activities if any of the following criteria is not complied with-

(a) **Same baseline of each activity within a bundle-** All activities are using the same baseline as explained in the baseline scenario above.

(b) **Same output of each activity (e.g., heat or power or cogeneration)-** All activities in the bundle have same output (power generation).

(c) **Same Technology of each activity (e.g., wind or solar)-** The project activities included in the bundle are using wind as the technology for electricity/ power generation.

(d) **Same additionality approach stipulated by the applicable methodology:** Cost of Equity is used as the same investment benchmark for additionality analysis in all project activities.

As the project activities comply with the above criteria, so both the activities can be included in a homogenous bundle.

## **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"> <li>▪ Revised version released on approval by Steering Committee as per GCC Program Process.</li> <li>▪ Revised version contains following changes:               <ul style="list-style-type: none"> <li>○ Introduced A3 type projects A2 project sub-types.</li> <li>○ Included revised Declaration by the 'Authorized Project Owner and focal point' on GCC requirements.</li> <li>○ Included modified format for E+/S+/ SDG assessment.</li> <li>○ Revised instructions for filling in the PSF.</li> <li>○ Editorial changes to the document.</li> </ul> </li> </ul>  |
| V 3.2   | 31/12/2020 | <ul style="list-style-type: none"> <li>▪ The name of GCC Program's emission units has been changed from "Approved Carbon Reductions" or ACRs to "Approved Carbon Credits" or ACCs.</li> </ul>   |
| V 3.1   | 17/08/2020 | <ul style="list-style-type: none"> <li>▪ Editorial revisions made               <ul style="list-style-type: none"> <li>○ Revised Table in section B.7.2 on Monitoring-program of risk management actions</li> <li>○ Revised Table in section E.1 on Environmental Safeguards</li> <li>○ Revised Table in section E.1 on Social Safeguards</li> <li>○ Revised Table in section F on United Nations Sustainable Development Goals (SDG)</li> </ul> </li> </ul>  |
| V 3.0   | 05/07/2020 | <ul style="list-style-type: none"> <li>▪ Revised version released on approval by Steering Committee as per GCC Program Process.</li> <li>▪ Revised version contains following changes:               <ul style="list-style-type: none"> <li>○ Change of name from Global Carbon Trust (GCT) to Global Carbon Council (GCC).</li> <li>○ Considered and addressed comments raised by Steering Committee:                   <ul style="list-style-type: none"> <li>➤ during physical meeting (SCM 01, dated 29 Oct 2019, Doha Qatar); and</li> <li>➤ electronic consultations EC01-Round 01 (15.09.2019 – 25.09.2019), EC01-Round 02 (27.03.2020 – 27.06.2020).</li> </ul> </li> <li>○ Feedback from Technical Advisory Board (TAB) of ICAO on GCC submission for approval under CORSIA<sup>18</sup>;</li> </ul> </li> </ul> |
| V 2.0   | 25/06/2019 | <ul style="list-style-type: none"> <li>▪ Revised version released for approval by the GCC</li> </ul>  |

<sup>18</sup>See ICAO recommendation for conditional approval of GCC at [https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/Excerpt\\_TAB\\_Report\\_Jan\\_2020\\_final.pdf](https://www.icao.int/environmental-protection/CORSIA/Documents/TAB/Excerpt_TAB_Report_Jan_2020_final.pdf)



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

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