

GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) REPORT

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DESIGN CERTIFICATION (VALIDATION)



Project Title: 21 MW Wind Energy Project by Shree Cement Limited
GS project ID: GS6999
Internal ID: 10318
Customer: Shree Cement Limited
Date: 06/12/2019
Revision: 02

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
A+SH_SYST_TQC_0010318	17/08/2019	01	06/12/2019
Client	Shree Cement Limited		
Project Title	21 MW Wind Energy Project by Shree Cement Limited		
Project Participants	Shree Cement Limited		
Project Location	The project is located in State: Karnataka, India		
Contact Person	Mr. Sanjay Singh		
GS4GG Version: GS4GG GS4GG Activity Requirements: RE Activity Requirements Applied Methodology Version: ACM0002 Version 20.0 https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG The following tools and guidance's have been followed (References): - Tool to calculate the emission factor for an electricity system¹ - Version 07.0 (EB 100, Annex 04) - Methodological Tool- Investment analysis - Version 07.0.0.0 and 08.0.0 - Methodological tool "Common Practice", version 03.1 EB84, Annex 7²: - Tool for demonstration and assessment of Additionality" Version 07.0.0. Current Methodology Version: ACM0002 Version 20.0			GS4GG Sectoral Scope: 1 UNFCCC CDM Sectoral Scope: 1 Technical Area: 1.2
GS4GG First PDD Version: 02 Date: 13/12/2018			GS4GG Final PDD Version: 04 Date: 06/12/2019
Estimated Reductions for the SDG: 47,829 MWh (for SDG 7) 1 training / annum and 10 people employed (for SDG 8) 44,806 tCO _{2e} / annum (for SDG 13)			
Selected Sustainable Development Goals (SDGs): 7; 8; 13			
Design Certification Summary			
LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Shree Cement Limited to perform the GS VER validation of "21 MW Wind Energy Project by Shree Cement Limited" applying the methodology ACM0002 version 20. The management of Shree Cement Limited is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions. A desk review and a site visit have been conducted to verify the data submitted in the GS4GG PDD. Applus+ Certification confirms the following have been reviewed: GS4GG PDD;			

¹ <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v7.0.pdf>

² <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-24-v1.pdf>

- b. The applied monitoring methodology;
- c. Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- d. The Gold Standard for Global Goals Principles and Requirements version 1.1 and related Annex.
- e. All information and references relevant to the project activity's resulting in estimated emission reductions.

The scope of the validation is defined as an independent and objective review of the project design document, against the Kyoto Protocol requirements, UNFCCC rules, applicable CDM requirements and requirement of Gold Standard. The validation report is finalized based on the assessment of the Gold Standard GS4GG PDD, and applying standard auditing techniques including but not limited to document reviews, follow up actions (e.g. site visit, telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations.

The report and the annexed validation checklist describes a total of 7 findings which include:

- 7 Corrective Action Requests (CARs);
- 0 Clarification Requests (CLs/CRs);
- 0 Forward Action Requests (FARs).

The PP has responded these findings by modifying the Gold Standard GS4GG PDD and providing adequate additional explanations and evidences. Applus+ Certification confirm that all the findings have been "closed out" before submitting the request for registration to GS Registry.

As a summary of the validation, the review of the Gold Standard GS4GG PDD and the subsequent follow-up interviews have provided Applus+ Certification with sufficient evidence for the determination of the project's fulfillment with all stated criteria. In our opinion, the project meets all relevant requirement of Gold Standard. Therefore, Applus+ Certification recommend the project for registration by the GS Registry as GS VERS project.

ASSESSMENT TEAM		
Team Members	Type of Resource ³	Organization (for OEs)
Lead Auditor: Mr. Sukanta Das	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications private Limited
Auditor: NA	☐ IR ☐ EI ☐ OE	-
Technical Expert: Mr. Sukanta Das	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications private Limited
Technical Reviewer: Mr. Denny Xue	☐ IR ☒ EI ☐ OE	-

³ IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

ABBREVIATIONS	
AMS	Approved Methodology Small Scale
Applus+ LGAI / Applus+	LGAI Technological Center, S.A. (Applus+ Certification)
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CL / CR	Clarification Request
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG (or GS)	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
TAC	Gold Standard Technical Advisory Committee
OM	Operational Margin
PP	Project Participant
PS	Project Standard
UNFCCC	United Nations Framework Convention for Climate Change
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

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Appendix:

Appendix 1: Corrective Action Request / Clarification Request / Forward Action Request resolution table.

Appendix 2: Audit Team CVs.

1. **INTRODUCTION**

Shree Cement Limited has commissioned Applus+ Certifications to perform a validation of “21 MW Wind Energy Project by Shree Cement Limited” (hereafter referred to as the project activity) in the state of Karnataka in the republic of, India. This validation report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and the subsequent decisions by the CDM/GS Executive Board as well as requirement of Gold Standard.

The purpose of the project activity is to generate power using renewable energy source (wind energy) and sell the power generated to the state grid. The project activity generates electricity using wind energy. The generated electricity is exported to the regional grid system which is under the purview of the INDIAN electricity grid of India.

The project activity replaces anthropogenic emissions of greenhouse gases estimated to be approximately 44,806 tCO_{2e} per year, thereon displacing 47,829 MWh/year amount of electricity from the generation-mix of power plants connected to the INDIAN GRID, which is mainly dominated by thermal/ fossil fuel based power plant.

The start date of crediting period of the project is from 28/03/2018 to 27/03/2023⁴.

Assessment team checked the commissioning of the power plant via the 3rd party commissioning certificate (provided by the state electricity board) and found that the same as mentioned in the GS4GG PDD is correct. The detail of Commissioning is as below:

WTG Details	Date of Commissioning (DOC)
KST 091	28/03/2018
KST 129	28/03/2018
KST 134	28/03/2018
KST 145	31/03/2018
KST 146	31/03/2018
KST 127	31/03/2018
KST 179	31/03/2018
KST 132	28/06/2018
KST 133	28/06/2018

⁴ The project is having registration date as 20/11/2019 however since the project is eligible for retroactive registration, the Crediting Period is being chosen from 28/03/2018 being the commissioning of first WTG of the project activity.

KST 092	28/06/2018
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Further major milestones and timeline being followed towards implementation of the project activity are as follows, which clearly demonstrates that continual and parallel actions were being taken by the PP for serious consideration of carbón revenues.

Sr No.	Particulars	Date
1.	DPR of project submitted by Third Party	13/07/2017
2.	Stakeholder Consultation Meeting	16/09/2017
3.	Board Resolution of project activity	29/09/2017
4.	LOI issued to technology supplier	29/11/2017
5.	PO issued to technology supplier	20/12/2017
6.	Commissioning of project activity	28/03/2018, 31/03/2018 and 28/06/2018
7.	Wheeling and Banking agreement signed with KPTCL	25/07/2018
8.	Submission of GS4GG PDD for Preliminary Review at Sustaincert	18/10/2018

Assessment team checked the technical parameters of the project equipment onsite and confirm that the details as mentioned in the GS4GG PDD are correct. The details are as below:

The technical specification of the S-97 model of WTGs is as follows:

MODEL	S97 - 2.1MW
Operating Data	
Rated power	2.1MW
Cut-in wind speed	4 m/s
Rated wind speed	11 m/s
Cut-out wind speed	25 m/s
Rotor	
Pitch system	Electric drive with electric brake, gear box, frequency converter and batteries
Diameter	97 m

Swept area	7386 m ²
Blade material type	Glass-fibre reinforced plastic (GRP)/Polyester
Generator	
Type	Asynchronous 3 phase induction with slip rings operated with rotor circuit inverter system (DFIG)
Frequency	50/60 Hz
Protection	IP 54, IP23 for slip ring unit
Cooling system	Air cooled
Insulation	Class H
Braking System	
Aerodynamic brake	Pitch/full blade
Mechanical brake	Hydraulic disc brake, activated by hydraulic pressure (active brake)
Gearbox	
Type	3 stages (One planetary & Two helical)
Yaw System	
Type	Electric motors with brake, gear box and pinion
Bearings	3 (1 per blade) , Material - 42CrMo4 QT
Tower	
Type	Tubular Steel Tower (4 sections)

Assessment team also checked the GPS coordinates as mentioned in the GS4GG PDD and found the same to be correct. The latitude and longitude are also cross checked from the Google earth software and the details are found correct. The GPS details of the project are as below:

Project Investor	WTG Location No	Latitude (D° M' Sec")	Longitude (D° M' Sec")
Shree Cement Limited	KST 091	15°52'49.43"	76°12'00.23"
	KST 092	15°52'58.59"	76°13'46.39"
	KST 127	15°53'57.68"	76°13'12.72"
	KST 129	15°53'15.44"	76°11'16.37"
	KST 132	15°53'05.95"	76°12'01.57"
	KST 133	15°53'34.38"	76°10'35.56"
	KST 134	15°52'28.57"	76°12'12.61"
	KST 145	15°53'05.62"	76°13'06.86"
	KST 146	15°53'21.05"	76°13'40.58"

	KST 179	15°52'49.83"	76°13'02.40"
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1.1 Objective

The purpose of a validation is to have an independent third party assessment of the GS4GG PDD and compliance with the GS requirements as described in the Gold Standard documentation and supporting documents by the client. Validation is part of the GS VER project cycle and will finally result in a conclusion by Applus+ Certifications whether a project activity is valid and should be submitted for registration of a proposed project activity rests at the GS and the Parties involved.

1.2 Scope

The validation scope is defined as an independent and objective review of the project PDD, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against all applicable CDM and GS requirements including the approved baseline and monitoring methodology ACM0002 Version 20.0. The validation was based on the requirements in the Gold Standard for Global Goals Principles and Requirements version 1.1.

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the PDD.

2. METHODOLOGY

The project assessment is based on the Gold Standard for Global Goals Principles and Requirements version 1.1.

and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the project activity are appointed. Once the project is made available for Applus+Certification, the members of the assessment team carried out:

1. A desk review of the PDD;
2. Follow-up interviews with project stakeholders;
3. The resolution of outstanding issues and the issuance of the final validation report and opinion.

The prepared validation report and other supporting documents then undergo an internal quality control before being submitted to the GS Registry.

The GS overview documents which is referred as DVR is as below

Validation Checklist Table 3: Resolution of Audit Findings				
Type:	☐ CAR	☐ CL/CR	☐ FAR	Number:
Raised by:				

Description of the audit finding	Date:	
The description of the audit finding should be clearly included here.		
Project Participant's response	Date:	
The responses given by the project participants during the communications with the validation team should be included here.		
Documentation provided as evidence by Project Participant		
The evidences provided by the project participants should be included here.		
Auditor's assessment comment	Date:	
This section should include how the audit finding is assessed by the assessment team.		

The Complete List of CAR/CL/FAR is included as Appendix 1 of this report.

2.1 Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center, S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center, S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center, S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT)
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Sukanta Das	LA/TE	YES	YES	YES	YES
Mr. Denny Xue	TR	YES	YES	YES	NA

The complete list of CVs is included as Appendix 2 of this report.

2.2 Document review

The Gold Standard PDD submitted by the Client was reviewed against the approved methodology and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in Section 4 of this report.

2.3 Follow up Interviews

Interviewed Personnel	Functions	Organization
Mr. Sanjay Singh	PP representative	PP
Prashant Murli	Farmer - Unskilled	Local stakeholder
Konkani Rao	Villager- Unskilled	Local stakeholder

The details activity done during the onsite visit is as below:

Duration of on-site inspection: 22/02/2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	Assessment team checked the implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring.	The project is located in the state of Karnataka	22/02/2019	Mr. Sukanta Das

The stakeholder interaction during onsite visit is described below:

Name of the stakeholder	Prashant Murli
Occupation	Farmer
DOE QUESTION: Did this Wind power plant cause any pollution? Answer: No, the plant does not cause any pollution. DOE QUESTION: Did PP promised employment opportunity? Answer: Yes, PP promised employment opportunity and employment is generated for local people. DOE also like to conclude that during the site visit it was observed that local people were employed for security and operation related work like water spraying, vegetation improvement	

and other unskilled work. DOE also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.

Name of the stakeholder	Konkani Rao
Occupation	Villager
DOE questions: Did the power plant discharge any harmful pollutants? Answer: NO the plant does not discharge any harmful pollutants. DOE questions: Did the power plant destroy any crop fields? Answer: The plant is implemented in barren land and there were no any fertile land or crop which is damaged. DOE thus conclude that stakeholders are happy with the implementation of the project activity.	

2.4 Resolution of Clarification and Corrective Action requests

The objective of this phase of the validation was to resolve the requests for corrective actions and clarification and any other outstanding issues which needs to be clarified for Applus+ Certifications positive conclusion on the PDD. The Corrective Action Requests and Clarification Requests raised by Applus+ Certifications were resolved during communications between the Client and Applus+ Certifications to guarantee the transparency of the validation process, the concerns raised and responses given are summarized in Appendix 1 below.

The Gold Standard GS4GG PDD version 04 submitted on 06/12/2019 serves as the basis for the final assessment presented. Additional changes to the GS4GG PDD during the validation process are not considered to be significant with respect to the main CDM and Gold Standard objectives.

2.5 Internal Quality Control

As final step of a validation the final documentation including the validation report and the protocol have to undergo an internal quality control by the technical review committee. Each report has to be finally approved either by the head of technical review committee or the deputy. In case one of these two persons is part of the audit team, approval can only be given by the other one.

After confirmation of the PP the validation opinion and relevant documents are submitted to the GS Registry.

3. PROJECT DESIGN CERTIFICATION ASSESSMENT

3.1 Approval

The host country is clearly identified in PDD which is India. The GS4GG allows the states defined as 'Non-Annex 1 Parties to the Convention' on UNFCCC website as the host country for GS projects. India is a Non Annex1 Party and therefore eligible state for Gold Standard Projects.

3.2 Participation

Shree Cement Limited is the project proponent from the host party India. The host country involved is parties to the Kyoto Protocol and meet and requirements to participate in the Gold Standard.

3.3 Scale of the project

The project activity is identified as a Large-scale project in section A.6 of the GS4GG PDD applying a large scale methodology ACM0002 version 20. The total capacity of the power project is 21 MW as validated from purchase order and Commissioning certificate. Since the design capacity of the project activity is more than 15 MW, which is stipulated limit for small scale projects by GS/CDM, the project is correctly classified as large scale project. The project capacity will be always remain the same and hence the project activity will always be large scale project activities throughout the crediting period and thereafter. Assessment team also checked the requirement of latest applicable methodology ACM0002 version 20.0 and confirms that the project qualifies the requirement of the latest methodology also (I.e. scale, applicability, baseline, additionality and monitoring)

a) Type of project: The project activity involves electricity generation using Wind power to reduce atmospheric CO₂ emission by replacing equivalent amount of electricity from the grid of India. The project type is identified as renewable energy project in section A.6 of the GS4GG PDD. The project activity complies with the requirement of 'the generation and delivery of energy services (e.g. electricity) from non-fossil and non-deployable energy sources' as defined in GS4GG. The project activity generates and supplies renewable electricity to the regional grid thereby displacing the electricity which would have generated in fossil fuel based power plants connected to the grid.

3.4 Greenhouse Gases

The project activity leads to displacement of electricity generation from fossil fuel based power plants connected to the regional grid by renewable energy generated using Wind power. The operation of the project activity will result in reduction of carbon-dioxide from the atmosphere due to displacement of electricity in grid by the renewable energy. Hence, the greenhouse gas identified in the PDD is carbon dioxide which is duly validated by the DOE.

The GHG emission sources considered for the project boundary and their explanations are as follows:

	Source	Gas	Included?	Justification/Explanation
Baseline	Grid connected electricity generation.	CO ₂	Yes	Main emission source
		CH ₄	No	Minor emission source

Source		Gas	Included?	Justification/Explanation
Project		N ₂ O	No	Minor emission source
		Other	No	No other GHG emissions are emitted from the project
	Greenfield Wind Power Project Activity.	CO ₂	No	No CO ₂ emissions are emitted from the project
		CH ₄	No	Project activity does not emit CH ₄
		N ₂ O	No	Project activity does not emit N ₂ O
		Other	No	Project activity does not emit other forms of GHG emissions

3.5 Project Boundary

As per ACM0002 version 20 (Latest methodology applied as available on CDM web site) - "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the GS project power plant is connected to".

The project boundary includes the Wind project, sub-stations, grid and all power plants connected to grid. The proposed project activity will evacuate power to the INDIAN grid. Therefore the entire INDIAN grid and all connected power plants have been considered in the project boundary for the proposed GS4GG project activity. The same is checked by the assessment team during the validation site visit and found correct.

3.6 Baseline Identification

Assessment team confirms that being a grid connected wind energy generation project, PP developed the project based on the Methodology ACM0002 version 20.0.

As per methodology 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".

The project activity involves setting up of wind projects to harness the power of wind to produce electricity and supply to third party. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel fired plants.

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

As per CDM Validation and Verification Standard for project activities version 02, "where the baseline scenario is not prescribed in the approved methodology, the DOE shall assess the list of identified credible alternatives to the project activity in the PDD selected to determine the most realistic baseline scenario." Thus, PDD should mention the credible alternatives to the project activity in order to determine the most realistic baseline scenario. As the selected large-scale methodology clearly mention the baseline scenario and the same has been opted in this project, therefore, no further analysis on baseline is required.

Validation Team, therefore, concludes that the PDD conforms to the guidance given by EB via CDM Validation and Verification Standard for project activities version 02/GS4GG guideline and thus acceptable to the assessment team.

3.7 Eligibility Principles Assessment

- **Principle 1. Contribution to Climate Security & Sustainable Development**

The baseline scenario and the emission reduction calculations have been performed as per the PDD. The emission factor of grid, in the GS4GG PDD, has been calculated in-line with the provisions of applied methodology ACM0002 version 20.0. The latest applicable version of "Tool to calculate the emission factor for an electricity system" is version 07.

The applicability criteria are now detailed out in the report as below:

Applicability 1: The project activity is installation of a new grid connected Wind power plant (Option 1 (A)) at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant) and hence this criterion is applicable.

Applicability 2: The proposed project activity is an installation of a new grid connected wind power plant and hence this condition is met. The option (a) of applicability criteria 2 is applicable as project is renewable energy power plant/unit.

Applicability 3: The project is installation of new wind energy-based electricity generation plants (not a hydro power plant). Hence this criterion is not applicable.

Applicability 4: The project is wind power project and thus the criterion is not applicable to this project activity.

Applicability 5: The project is wind power project and thus the criterion is not applicable to this project activity.

Applicability 6: The project is wind power project and thus the criterion is not applicable to this project activity.

Applicability 7: The project activity is installation of a new grid connected wind power project and does not involve switching from fossil fuel to renewable energy and hence this criterion is not relevant to the project activity.

&

This is a wind power plant and not a biomass fired plant and hence this applicability criterion is not applicable to the project activity.

Applicability 8: The project activity is a new grid connected wind power plant and not a retrofits, replacement or capacity additions and therefore this criterion is not applicable to the project activity.

Applicability 9: Please refer below

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

- OM, BM and CM are estimated using the tool for calculating baseline emissions.
- The project activity is grid connected and thus emission factor is calculated and thus OM, BM and CM are estimated using the tool for calculating baseline emissions.
- The project activity is located in India, a non-Annex I country. Therefore, tool is applicable for the project activity.

- The project is a wind power project and there is no involvement of biofuels. Therefore, this criterion is not applicable for the project activity.

The project applies methodology ACM0002, Version 20⁵, Sectoral Scope: 01, which is an approved methodology under Gold Standard.

- The project type is power generation using Wind Energy which is an eligible project type as it is in accordance with 1.1.1 a) and 1.1.1 b) of the Eligible Project Types & Scope under Renewable Energy Activity Requirements. The criteria as per 1.1.1 c) and 1.1.1 d) of this requirement are not relevant to project activity and hence not applicable.
- The project activity is wind power project and not specific Renewable Energy project types like Hydropower, projects using biomass resources etc., hence as per criteria 1.1.2 additional eligibility criteria are prescribed in Annex A (Additional criteria for specific renewable energy project types) of 200-GS4GG-Renewable-Energy-Activity-Requirements-v1.1 document is not applicable for the project activity.
- As per criteria 1.1.3 of 200-GS4GG-Renewable-Energy-Activity-Requirements-v1., the project activity conforms (a) Gold Standard for the Global Goals Principles & Requirements (and associated documents) AND (b) Gold Standard Renewable Energy Activity Requirements.
- The project activity is not seeking the renewable Energy Labels, hence criteria 1.1.4 of VERs, hence 200-GS4GG-Renewable-Energy-Activity-Requirements-v1.1 document is not applicable for project activity.
- The project activity results in displacement of electricity from thermal power stations while contributing to sustainable development of India. Hence, the project contributes to the Gold Standard Vision and Mission.
- Wind power is an approved project type and does not require approval from Gold Standard.
- This project activity is not associated with geo-engineering or energy generated from fossil fuel or nuclear, fossil fuel switch, nor does it enhances or prolongs such energy generation.

General Eligibility Criteria under criteria 1.2 of Renewable Energy Activity Requirements

Project Type: As discussed above, the project type is eligible.

Project Location: The project is located in India. The project activity is not located in high conservation areas. Further details have been provided in section A.4 of GS4GG PDD.

Project scale: The project activity is 21 MW Wind Energy project and thus qualifies under large scale projects.

The project activity meets the eligibility criteria as per section 3.1.1 of GS4GG Principles & Requirements document as described below:

⁵ <https://cdm.unfccc.int/methodologies/DB/XP2LKUSA61DKUQC0PIWPGWDN8ED5PG>

Applus+ Certification confirms that the application of the baseline methodology is transparent and conservative, and confirms that the chosen baseline and monitoring methodology i.e. ACM0002 version 20.0 is applicable to the project activity.

DOE also confirms that the project activity complies with the requirement of baseline determination in ACM0002 version 20.0, which is the latest applicable methodology available to the project participant. It is to be noted that the grid emission factor as per latest version of 'Tool to calculate the emission factor for an electricity system.' Version 7 and as per latest CO₂ Baseline Database Version 14.0 for the Indian Power Sector prepared by Central Electricity Authority, the combined margin grid emission factor comes as 0.9368 tCO₂/MWh.

The National CDM Authority (NCDMA), which is the Designated National Authority (DNA) for the Government of India (GOI) under the Ministry of Environment and Forests (MoEF), has mentioned four indicators for the sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India⁶. Thus the project's contribution towards sustainable development has been addressed based on the following sustainable development aspects:

I. Social well-being:

The project activity provided / provides job opportunity to local people during erection, commissioning and maintenance of the wind machines. Frequency of visiting villages and nearby areas by skilled, technical and industrialist increase due to installation /site visit/operation and maintenance work related to WTGs. This directly and indirectly positively effects the economy of villages and nearby area.

II. Economic well-being:

The project activity generates permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and life style of the area.

III. Environmental well-being:

The Wind power is one of the cleanest renewable energy powers and does not involve any fossil fuel. There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment.

IV. Technological well-being:

The project activity is step forward in harnessing the untapped wind potential and further diffusion of the wind technology in the region. The project activity leads to the promotion of WTGs and demonstrates the success of wind turbines in the region which further motivate more investors to invest in wind power projects. Hence, the project activity leads to technological well-being.

• Principle 2: Safeguarding Principles

⁶ <http://ncdmaindia.gov.in/Contactus.aspx>

The Safeguarding principles assessment is as below:

Safeguarding principles	Assessment questions	Assessment of relevance to the project (Yes / potentially / no)	Justification of the Assessment team	Mitigation measure (if required)
3.0 SOCIAL & ECONOMIC SAFEGUARDING PRINCIPLES AND REQUIREMENTS 3.1 Principle 1 – Human Rights	1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights. 2. The Project shall not discriminate with regards to participation and inclusion.	No	The Project is not in conflict with the economic livelihood of the local community. The Project does not cause any human rights abuse and respects internationally proclaimed human rights issue. Further, the Project meets the local labour law requirements thus does not cause any human rights abuse. The India has ratified the United Nations Human Rights Rules and regulations. The India ratified the same as per web link⁷ given below The project adheres to the host country's commitment to: Universal Declaration of Human Rights (UDHR) International Covenant on Economic, Social and	Not applicable

⁷ http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

			Cultural Rights, India Accession 10/04/79⁸ International Covenant on Civil and Political Rights India Accession 10.04.79⁹	
3.2 Gender Equality and Women's Rights	(i) Promotes gender equality and the empowerment of women. (ii) Does not recognise Projects that contribute to discrimination against women or reinforce gender-based discrimination and/or inequalities. (iii) Recognises and seeks to contribute to SDG 5 – Achieve gender equality and empower all women and girls.	No	The Project promotes gender equality and the empowerment of women. The Project does not cause any discrimination against women. The project Proponent does not indulge in discrimination on basis of gender, race, religion, sexual orientation. The project abide by the Factories Act that prohibits any form of discrimination and is in accordance with the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) , India ratified it on 09/07/1993 with certain reservations¹⁰ And International Convention on the Elimination of All Forms of Racial Discrimination; India ratified the convention on	Not applicable

⁸ <http://hrlibrary.umn.edu/research/ratification-india.html> and http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

⁹ <http://hrlibrary.umn.edu/research/ratification-india.html> and http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN

¹⁰ http://nhrc.nic.in/documents/india_ratification_status.pdf and <http://www.un.org/womenwatch/daw/cedaw/>

			03/12/1968 with certain reservation ¹¹ The CSR policy https://www.shreecement.com/pdf/shree_csr_policy_final.pdf for the PP i.e. Shree Cement Limited is checked by the assessment team and it is confirmed that PP does not create any form of discrimination among men and women. Equal opportunity is provided to Men and Women as per the merit and requirement of the company.	
3.3 Principle 3 – Community Health, Safety and Working Conditions	1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	No	The project is renewable energy technology (Wind Technology) and does not have exposure to increased health risks and shall not adversely affect the health of the workers and the community. Necessary health and safety measures are taken during construction and operation phase, relevant staff will be trained to be able to work with high voltages.	Not applicable
3.4 Principle 4 – Cultural Heritage, Indigenous Peoples, Displacement and Resettlement 3.4.1 Sites of Cultural and Historical Heritage	Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, or practices)?	No	No cultural heritage is observed on the project site, thus no harm observed. Compliance with India's commitment to International Covenant on Economic, Social and Cultural Rights 10.04.79 will ensure no damage to critical cultural heritage.	Not applicable

¹¹ http://nhrc.nic.in/documents/india_ratification_status.pdf and <http://www.refworld.org/docid/3ae6b3940.html>

3.4.2 Forced Eviction and Displacement	Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project has received the necessary approvals from the local authorities and does not lead to any resettlement. India (the Ministry of Rural development have the "The National Rehabilitation and Resettlement Policy, 2007 http://www.dolr.nic.in/nrrp2007.pdf The project activity does not have any major impact on land use patterns. In accordance with Article 1 of the International Covenant on economic, Social and Cultural Rights the program does not complicit in involuntary resettlement. No Expropriation has been conducted on any private land involved in project activity. Land has been purchased by PP directly from the owner of the land through direct negotiation of commercial terms. There has not been involvement of any government agency in the acquiring the land. The land is acquired on mutual consent between private land owner and PP, thus there are no any issues of dissatisfaction of private land owner.	Not applicable
3.4.3 Land Tenure and Other Rights	1. Does the Project require any change to land tenure arrangements and/or other rights?	No	The project has received the necessary approvals from the local authorities and does not lead to any resettlement. There are no any uncertainties with regards land tenure, access rights,	Not applicable

	2. For Projects involving land-use tenure, are there any uncertainties with regards land tenure, access rights, usage rights or land ownership? Examples include, but are not limited to water access rights, community-based property rights and customary rights.		usage rights or land ownership. Thus land tenure and other rights are with PP. PP have the rights to use land for the project activity and there is no any dissatisfaction for land usage for the project activity as the land for project activity has been procured from state government by means of sub lease and obtained required approvals and written consent from the Government and is paying yearly rent for the use of land as per land use deed signed between PP and Government.	
3.4.4 Indigenous Peoples	Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples	No	The project is located at site where there are no any peoples residing. The project is located at barren land.	Not applicable
3.5 Principle 5 – Corruption	(a) Does not recognise Projects that engage in, contribute to or reinforce corruption of any kind.	No	The project is renewable energy technology (Wind Technology) and does not contribute to or reinforce corruption of any kind. Indulgence in corruption is an illegal activity in the host country and the local labor compliance takes into account of the same. The project abides by the United Nations Convention	Not applicable

			Against Corruption. India ratification 09.05.11 ¹²	
3.6 Principle 6 – Economic Impacts 3.6.1 Labour Rights	1. The Project Developer shall ensure that there is no forced labour and that all employment is in compliance with national labour and occupational health and safety laws, with obligations under international law, and consistency with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions. Where these are contradictory and a breach of one or other cannot be avoided, then guidance shall be sought from Gold Standard. 2. Workers shall be able to establish and join labour organisations.	No	Forced labor is an illegal activity in the host country and the local labor compliance takes into account of the same. Further, India is a party to ILO and forced labour is illegal in India. The project does not employ any form of forced or compulsory labour. Employees can quit their Services at any time. The project complies with the Factories Act in India that prohibits forced or compulsory labour ¹³ . The project activity does not involve any child labour. The project respects fundamental right of employee. There is law in India since 1926 by The Trade Unions Act, 1926 ¹⁴ which protects rights of industrial trade unions and their members. The agreements are in place for permanent employees The project prefers the local employment and culture is maintained at project site.	Not applicable

¹² <http://www.unodc.org/unodc/en/treaties/CAC/signatories.html>

¹³ <http://www.ilo.org/dyn/natlex/docs/WEBTEXT/32063/64873/E87IND01.htm>

¹⁴ <http://ncwapps.nic.in/acts/TheTradeUnionsAct1926.pdf>

	3. Working agreements with all individual workers shall be documented and implemented. These shall at minimum comprise: (a) Working hours (must not exceed 48 hours per week on a regular basis), AND (b) Duties and tasks, AND (c) Remuneration (must include provision for payment of overtime), AND (d) Modalities on health insurance, AND (e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND (f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. The Project Developer shall		The country has strict prohibition for child labour¹⁵. Thus project does not involve child labour during construction and operation of project activity. The project follows the health, safety and environment guidelines at project site. The project ensures the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.	
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¹⁵ http://www.indianchild.com/child_labour_law_in_india.htm

	justify that the employment model applied is locally and culturally appropriate. 5. Child labour, as defined by the ILO Minimum Age Convention is not allowed. The Project Developer shall use adequate and verifiable mechanisms for age verification in recruitment procedures. Exceptions are children for work on their families' property as long as: (a) Their compulsory schooling (minimum of 6 schooling years) is not hindered, AND (b) The tasks they perform do not harm their physical and mental development, AND (c) The opinions and recommendations of an Expert Stakeholder shall be sought and			
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	demonstrated as being included in the Project design. 6. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.			
3.6.2 Negative Economic Consequences	Is project involves Negative Economic Consequences 1. The Project Developer shall demonstrate the financial sustainability of the Projects implemented, also including those that will occur beyond the Project Certification period. 2. The Projects shall consider economic impacts and demonstrate a consideration of potential risks to the local economy and how these have been taken into account in Project design,	No	No potential risks to the local economy. The financial sustainability of the Projects implemented, also including those that will occur beyond the Project Certification period. The financial sustainability is demonstrated in registered PDD and these calculations are for entire lifetime of project activity. The project does not involve any negative impacts and no any potential risk to local economy. The project leads to economic development of the local area by means of generating employment opportunities for local people either directly or indirectly.	Not applicable

	implementation, and operation and after the Project. Particular focus shall be given to vulnerable and marginalised social groups in targeted communities and that benefits are socially-inclusive and sustainable.			
4.1.1 Emissions	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project is renewable energy technology (Wind Technology) and does not lead any increase in greenhouse gas emissions over the Baseline Scenario.	Not applicable
4.1.2 Energy Supply	Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The project activity supplies energy to national grid and project activity displaces equivalent quantity of electricity which would have been generated by fossil fuel dominated grid connected power plants. The clean energy supply to the grid increases and hence Locals can get benefit of having continuous excess to clean power.	Not applicable
4.2.1 Impact on natural water patterns and flow	Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic	No	The project is renewable energy technology (Wind Technology) and does not affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s).	Not applicable

	connectivity or water scarcity?			
4.2.2 Erosion and/or water body stability	1. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? If 'Yes' or 'Potentially' proceed to question 2. 2. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	The project is renewable energy technology (Wind Technology) and does not affect Erosion and/or water body stability.	Not applicable
4.3.1 Landscape modification and soil	Does the Project involve the use of land and soil for production of crops or other products?	No	The project proponent has implemented Environment Health Safety and Social guideline which takes into account the same. The project activity involves barren land and does not involve use of land and soil for production of crops or other products. The project does not involve any landscape modification or soil. Hence there is no any impact of this principle.	Not applicable
4.3.2 Vulnerability to Natural Disaster	Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence,	No	The project is renewable energy technology (Wind Technology). The Project will not be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides,	Not Applicable

	landslides, erosion, flooding, drought or other extreme climatic conditions?		erosion, flooding, drought or other extreme climatic conditions. Thus this section is Not Applicable.	
4.3.3 Genetic Resources	Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development)?	No	The project is renewable energy technology (Wind Technology). The Project not be negatively impacted by the use of genetically modified organisms or GMOs. Thus this section is Not Applicable	Not Applicable
4.3.4 Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?	No	The project has received environmental clearance from the State Pollution control Board. Further the EHSS guidelines take into account the same. The project does not lead to release of any hazardous substances that pose threat to the environment. Rather it aims at reducing the air pollution that is prevalent due to use of fossil fuel power plants. The project promotes environmental protection through the use of cleaner technology. The project abides by the stipulations of the Indian Environment Protection Act 1986¹⁶.	Not applicable
4.3.5 Hazardous and	Will the Project involve the	No	The project is renewable energy technology (Wind	Not Applicable

¹⁶ <http://envfor.nic.in/legis/env/env1.html>

Non-hazardous Waste	manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?		Technology). The project does not involve generation of Hazardous and Non-hazardous Waste. Standard procedure is followed at site during operation and maintenance. Hazardous Waste generated during the operation of WTG are being disposed adequately. As per the guidelines of Developmental impacts and Sustainable Governance Aspects of Renewable energy projects by MNRE, "Renewable Energy Projects don't have long term irreversible impacts on local environment due to zero emissions associated with operations". During operation and maintenance of the WTGs, the waste generated is handled and disposed in an approved manner. Health, safety and Environment guidelines are followed at site. The Suzlon have all management certifications i.e ISO9001:2008, ISO14001:2004, OHSAS 18001:2007 management certifications (http://www.suzlon.com/product/qmcp). Also suzlon have their Corporate Social Responsibility policy and same is followed for their all sites. Please refer web link for the same (http://www.suzlon.com/about/csr) The wind project activity site generates negligible quantity of waste oil/diesel and same is stored and given to vendor for further reuse/recycle or to	
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			dispose. Thus waste is generated are being disposed as per standard waste management principles being followed by EPC contractor.	
4.3.6 Pesticides and fertilizers	Will the Project involve the application of pesticides and/or fertilisers?	No	The project is renewable energy technology (Wind Technology) power generation. There is no any involvement of pesticides and/or fertilisers. Thus this principle is Not Applicable.	Not Applicable
4.3.7 Harvesting of forests	Will the Project involve the harvesting of forests?	No	The project is renewable energy technology (Wind Technology) power generation. The project activity does not involve any harvesting of forests. Thus this principle is Not Applicable.	Not Applicable
4.3.8 Food	Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project is renewable energy technology (Wind Technology) power generation. The Project does not modify the quantity or nutritional quality of food available. Thus this principle is Not Applicable	Not Applicable
4.3.9 Animal Husbandry	Will the Project involve animal husbandry?	No	The project is renewable energy technology (Wind Technology) power generation. The Project does not involve animal husbandry. Thus Not Applicable	Not Applicable

4.3.10 High Conservation Value Areas and Critical Habitats	Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	No cultural heritage is observed on the project site, thus no harm observed. Compliance with India's commitment to International Covenant on Economic, Social and Cultural Rights 10.04.79 will ensure no damage to critical cultural heritage. The project is not located in any HCV areas as per the list of approved HCV areas of India¹⁷.	Not Applicable
4.3.11 Endangered Species	1. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? 2. Does the Project potentially impact other areas where endangered species may be present through trans boundary affects?	No	There are no any endangered species identified at project site and also no species have the route through area. The project activity does not impact other endangered species through trans boundary affects. As per EIA notification, the wind projects do not require Environmental Impact Assessment. The project activity has no significant impact on the environment. Wind projects are not included in the Schedule I of the EIA notification S.O.1533 (E) dated 14th September 2006 and thus an EIA is not required. Ministry of Environment & forests vide their OM J-11013/41/2006 - IA II (I) dated 13th May 2011 has re-affirmed this and	Not Applicable

¹⁷ <http://natureconservation.in/state-wise-list-of-conservation-reserves-of-india-updated/>

			exempted Wind power plants from EIA and EC requirement The project site is not on the migration route of migratory birds also. The project site is located in the Koppal, Karnataka. It is to be noted that there is any migratory birds route over the project area. Same is evident from the attached figures of migratory birds route for India. Further, migratory birds fly on very high altitude while height of WTGs are not more than 125 mtrs. Moreover, the area do not fall under any reserved forest and does not have rare or endangered species. Below is the link for scientific paper justifying the same http://wgbis.ces.iisc.ernet.in/energy/water/paper/TR123/section6.htm	
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The safeguarding principles relevant to the project activity are justified by PP based on supporting web links, references wherever applicable.

Also the report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013 is submitted to DOE. This report clearly mentioned that Wind farms operations do not result in direct air pollution, noise pollution. Please refer below web link for the same.

<http://mnre.gov.in/file-manager/UserFiles/report-on-developmental-impacts-of-RE.pdf>

These safeguarding principles assessment is validated through references given by PP, MNRE report as mentioned above and based on site visit observations and interview during the site visit.

The SDG goals are also described below:

SDG Goal	Assessment of Methodological choices/approaches for estimating the SDG outcome
SDG 7 –Affordable and Clean Energy : Ensure access to affordable, reliable, sustainable and modern energy for all	Measurement Method: - Electricity produced and supplied to the grid is monitored through energy meter. Net electricity will be calculated by state electricity board and O&M operator on monthly basis and provided in the share certificate/monthly report or equivalent. The other parameters used for net electricity supplied to grid are mentioned in monitoring plan. QA/QC Process: This parameter is monitored monthly and value of parameter will be cross checked with invoices. The meters will be calibrated on regular frequency. Relevant SDG Target: 7.2-By 2030, increase substantially the share of renewable energy in the global energy mix. Corresponding indicator: 7.2.1 Renewable energy share in the total final energy consumption
SDG 8 – Decent Work and Economic Growth: Promote inclusive and sustainable economic growth, employment and decent work for all 1. Number of Employment and income generation 2. Quality of employment	1. Quantitative employment and income generation 2. Quality of employment Measurement Method: - Together with the technology supplier, the Project organise training for the staff on the technology and the monitoring of the plant operation, and the emergency and safety procedures. QA/QC Process: The number of persons employed would be mentioned in the plant register, which can be crossed checked with daily attendance register or letter from O&M contractor for number of peoples employed. Relevant SDG Target: 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 Corresponding indicator: (8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training) (8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities)

SDG 13 – Climate Action : Take urgent action to combat climate change and its impacts	Measurement Method: - The emission reduction parameter is calculated as product of net electricity supplied to grid and grid emission factor. The grid emission factor is ex-ante parameter and determined based on data obtained from "CO₂ Baseline Database for Indian Power Sector" version 14, published by the Central Electricity Authority, Ministry of Power, and Government of India. This is in line with "Tool to calculate the emission factor for an electricity system, version 7". The emission reductions are calculated as per registered PDD and as per methodology requirement. QA/QC Process: This parameter is calculated, and no any QA/QC procedure required. Relevant SDG Target: 13.2: Integrate climate change measures into national policies, strategies and planning Corresponding indicator: Emission reductions in tCO_{2e} from the project activity.
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- **Principle 3: Stakeholder Inclusivity**

The local stakeholders were invited by the invitation published in local newspaper and the meeting was conducted. The details are checked from the stakeholder Minutes of meeting, Attendance register and found correct. Moreover, also a part of continuous stakeholder inclusivity a grievance mechanism register is being placed at project site, wherein any stakeholder can register their complaints or suggestions for continual improvement. The complain if found suitable will be immediately addressed by the PP. The procedure is found appropriate and acceptable to the assessment team. During the onsite visit assessment team also had an interaction with the local stakeholder (detail in section 2.3 above) and found that stakeholder is happy with the implementation of the project activity. Assessment team would like to submit that before the implementation of the project activity the locals people were bond laborer in agricultural field and thus the income was not regular. They used to get paid on day to day basis and that is not regular. After the implementation of the project activity many locals got permanent jobs. Thus the assessment team concluded that project activity helped to improve the lifestyle of the locals and also provided them job opportunity.

The project activity is a retroactive project and therefore PP was required to conduct a Stakeholder Feedback Round (SFR) covering the issues (if any) related to the project activity. An email was sent to all the stakeholder and comment are envisaged from 29/12/2018 for 2 month period. Public notices were also circulated onsite and in the village for the local stakeholders to inform about the project activity. Assessment team checked the public notices and found correct. The C and D category stakeholders are invited through online SFR. For category A and B, the public notice has been put at project site. The public notice mentioned about Grievance expressions, telephone and e-mail access for feedback. The sample of onsite emails sent to NGOs and for local people public notices was put at project site is also submitted to the DOE. The email attachments and public notices are also checked by the assessment team and found correct. Moreover, the physical Local stakeholder consultation was carried out on 16/09/2017 by inviting

the local stakeholders through public notice. The notice was for all Local stakeholders and not a gender specific. Thus gender equality has been followed during consultation. The meeting involved participation from both male and female and they expressed their queries and feedback about the project. Since project is developed in particular site, for project, the nearby local villagers are most relevant and who are directly and indirectly may be affected. Thus putting public notice at project site/nearby village involves engagement of all stakeholders for the project activity. During that initial physical stakeholder consultation, the project information was given and taken feedback for the project activity. The information about feedback register also given to stakeholders so that they can give their feedback at any time. Thus continuous input and Grievance Mechanism has been followed during physical consultation. The stakeholders also acknowledged the socio-economic benefits of the project activity including improved infrastructure in the region, and employment opportunities for local residents. Following observations are made by the DOE:

- Different representative of stakeholders like local villagers, head of panchayet, NGOs, employees were invited for their comments via emails during stakeholder's feedback round
- No negative comments were received during the period starting from 29/12/2018 to 2 months' time period and local stakeholders were very satisfied with the project activity implementation and operation in their area.

Assessment team asked following queries to the stakeholders during the validation site visit and concludes that stakeholders are overall happy with the implementation of the project activity.

- **Principle 4: Demonstration of real outcomes**

The Sustainable monitoring plan is described below:

SDG Parameter	Indicator	Monitoring
SDG 7 : Affordable and Clean Energy	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh 7.2.1 Renewable energy share in the total final energy consumption	The available parameter to Project owner is net electricity supplied to grid and same is mentioned as monitoring parameter. Net electricity supplied to the grid by the project plant in a given month = Export, kWh – Import, kWh. The 115% of import and transmission loss if any would be accounted while calculating net electricity supplied to grid as per PPA. The calculation of net electricity generation is in the hand of state electricity

		board and PP has no role to play in the same. At the end of each billing month a Monthly joint meter reading reports/B-Forms is created which mentions the value of export, import, transmission loss and Net electricity supplied to the grid by individual PP and thus the same is used as primary source of data for emission reduction calculation. Quantity of net electricity supplied to the grid will be cross checked from the invoices raised by the project proponent to the State Electricity Board. The energy meters used are tri-vector meters which are of accuracy class 0.2. The meters are monitored continuously & cumulative readings are taken at the end of the month by joint meter reading procedure. These are sealed by state board to avoid malfunctioning with meter readings. The officials frequently check the meters for tampering and malfunctioning with the meters. Meter is calibrated as per the provision of PPA by the State authority in the presence of O&M Contractor / investors representatives and State Board officials to ensure the working of meter within permissible limits. The calculation of net electricity supplied to grid is under purview of state electricity
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		board and Project owner do not have control on it. The onsite practice is thus acceptable to the assessment team as the same is as per the requirement of the approved methodology.
SDG 8 : Decent Work and Economic Growth	Number of employment and income generation 8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities	Project participant have Documentation pertaining to employment, attendance register and documentary details of training/capacity building. Assessment team checked onsite that at least more than 10 people are expected to be employed at site during crediting period. The actual value will be checked during the verification of the said project. Assessment team also checked the salary slips and confirms that due to project activity peoples are getting more than minimum wages as a salary and this salary is better than local level salary. Based on the roles and responsibility of employee, the salary will be higher than the minimum salary of the region and hence the parameter monitoring is acceptable to the assessment team.
SDG 8 : Decent Work and Economic Growth	Quality of employment 8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training	The training records are maintained on regular basis with annual consolidation. The employment opportunities generated are local or temporary or permanent as checked and

		confirmed by the assessment team. The training related to O&M, Safety, emergency procedure, fire safety etc. are provided to employees. Since local people are employed due to project activity, the training given to employees improves the quality of employment. Apart from these training to employees, the PP organizes few events which will be beneficial to society as a part corporate social responsibility (CSR) activities as per their policy. As the parameter is subjected to monitoring the same will be checked during the verification of the project activity. It will be ensured that safe working condition and safety equipment's has been provided for all skilled and unskilled Labor. It will be checked during verification through site visit observations and interview with people if noise level is maintained within permissible limit. Safety equipment to be provided to workers both skilled and unskilled will be checked during the verification of the project activity. Assessment team however checked the same is already provided to the
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		workers as part of companies CSR (EHS) policy. 1 training/year is estimated which will be checked during the verification of the said project.
SDG 13: Climate Action	Emission Reductions	The emission reduction calculation will be done as per the formula mentioned in the GS4GG PDD. As the parameter is subjected to monitoring the same will be checked during the verification of the project activity.

As per Annex G SD Checklist, the additional aspect is impact on transmission system and shadow flicker. The wind turbines of project activity do not have any effect on transmission system. The project meets all regulatory requirements and running satisfactorily since commissioning of project activity. Also turbines are away from residential area, hence there is no any issue of shadow flicker. There is no any feedback received during LSC meeting or during SFR regarding shadow flicker. Thus, project does not have any negative impact on additional aspects.

Transmission line effect: The project activity is exporting the generated electricity to grid. The EPC contractor and state electricity board is responsible for the construction of transmission line. They are following safety while construction of transmission lines. The project proponent does not have any role in the construction of transmission lines. The standard procedure is followed at site while commissioning the transmission lines.

- **Principle 5: Financial Additionality & Ongoing Financial Need**

During conceptualization of the project activity, board of directors of the project proponents dated 29/09/2017 considered the GS revenue to improve the project financials. During the board meeting for board of Directors decided that they would consider GS revenue for their project activity. In continuation to the board decision, PP issued the respective purchase order for the supply of wind power plant.

The start date of the project activity is 29/11/2017 which is the date of LOI being placed to the Technology Supplier for supply of WTG's. The project submitted for pre-liminary review to GS on 18/10/2018 which is within 1 year of project start date and Hence, assessment team conclude that the project meet the prior consideration criteria.

Further below table is being presented as per the major timelines for the implementation of the project activity:

Sr No.	Particulars	Date	Evidence cross checked by VVB
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1.	DPR of project submitted by Third Party	13/07/2017	DPR by Third party dated 13/07/2017
2.	Stakeholder Consultation Meeting	16/09/2017	LSHM Meeting MOM dated 16/09/2017
3.	Board Resolution of project activity	29/09/2017	Board Resolution dated 29/09/2017
4.	LOI issued to technology supplier	29/11/2017	LOI dated 29/11/2017 issued to Suzlon
5.	PO issued to technology supplier	20/12/2017	PO dated 20/12/2017
6.	Commissioning of project activity	28/03/2018, 31/03/2018 and 28/06/2018	Commissioning Certificate dated 28/03/2018, 31/03/2018 and 28/06/2018 issued by Gulbarga Electricity Company Limited
7.	Wheeling and Banking agreement signed with KPTCL	25/07/2018	Banking Agreement issued by Karnataka Power Transmission Company Limited dated 25/07/2018
8.	Submission of GS4GG PDD for Preliminary Review at Sustaincert	18/10/2018	Email confirmation and GS4GG Website

In line with CDM Validation and Verification Standard for project activities version 02.0., the additionality of the Project activity is ascertained in line with the applicable guidance from the UNFCCC. The demonstration of additionality for the proposed Project activity is being carried out in accordance with the additionality tool provided by the UNFCCC i.e. "Tool for demonstration and assessment of Additionality" Version 07.0.0. The tool provides a step-wise approach to demonstrate additionality which is displayed below:

Step 0: Demonstration whether the proposed project activity is the first-of-its-kind
 The proposed project activity is not the first-of-its-kind. Hence it is not applicable.

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

Alternative 1: The proposed project activity without CDM/GS benefit;

Alternative 2: Continuation of the current situation, i.e., electricity will continue to be generated by the existing generation mix operating in the grid.

However, of the two alternatives identified, alternative (i) cannot be considered realistic as further analysis in the following paragraph reveals that it is not economically feasible option. Hence, alternative (ii) alone could be justified as realistic, credible and plausible alternative to the PP.

Validation team is, therefore, convinced that the project developer has taken into consideration all realistic and credible alternatives (having regard to the governing methodologies) including the project being undertaken as a non-CDM activity and continuation of current scenario. The identification of alternatives is in conformity with the guidance given by the tool.

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

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

The alternative(s) shall be in compliance with all applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution. (This sub-step does not consider national and local policies that do not have legally-binding status.)

Both the alternatives are in compliance with all applicable legal and regulatory requirements as;

- The implementation of project activity is a voluntary initiative and is not mandatory or a legal requirement;
- The applicable environmental regulations do not restrict the use of Wind energy; and
- There is no legal requirement on the choice of a particular technology.

Moreover, 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. However, Alternative 2 has been selected as the appropriate baseline alternative for this project activity.

Step 2: Investment analysis

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

Sub-step 2a: Determine appropriate analysis method and Sub-step 2b (Option III): Apply benchmark analysis

a) Suitability of investment analysis, financial indicator and benchmark:

Project developer had demonstrated that the financial returns of the proposed GS4GG project activity would be insufficient to justify the required capital investment as per CDM Validation and Verification Standard for project activities version 02.0. In the PDD Version 03, PP has adopted a conservative approach to identify the benchmark for the project activity. The project is generating savings in terms of power generated from the Wind PV plant being used for captive

purpose. Thus simple cost analysis (Option I) is not appropriate. Also in the absence of the project activity grid electricity would have been the obvious choice for the Project which requires no investment. Hence investment comparison analysis (Option II) is also not appropriate for the project activity. Therefore, benchmark analysis (Option III) is used for the project activity as per project type and decision-making context. Therefore, the Expected return on equity is considered appropriate benchmark. Accordingly, the post-tax Equity IRR has been considered as the relevant financial indicator for the project activity which is acceptable to the assessment team. Moreover, the financial indicator selected by the PP is correct based on the fact that tool do not restrict the PP to either use project IRR or Equity IRR. This is under the prerogative of the PP to select appropriate indicator based on his preferences to know the IRR based on his equity investment or debt investment. The same is thus acceptable to the assessment team. Assessment team however checked the Equity IRR calculation and found that input assumptions used for the calculation of Equity IRR are applicable at the time of investment decision of the project and thus is in accordance with the relevant guideline of the tool.

“In situations where an investment analysis is carried out in nominal terms and the available IRR benchmarks are in real terms, project participants shall convert the real term values of benchmarks to nominal values by adding the inflation rate. The inflation rate shall be obtained from the inflation forecast of the central bank of the host country for the duration of the crediting period. If this information is not available, the target inflation rate of the central bank shall be used. If this information is also not available, then the average forecasted inflation rate for the host country published by the IMF (International Monetary Fund World Economic Outlook) or the World Bank for the next five years after the start of the project activity shall be used”.

The investment analysis has been carried out in Nominal terms. Accordingly, default value has been adjusted by adding suitable forecasted inflation rate taken from RBI (Central Bank, India). Project Participant has calculated Benchmark based on WPI mean inflation rate. As per the Tool for the determination and assessment of additionality version 07, and Methodological Tool Investment analysis version 07.0 and 08.0 available to the PP at the time of Investment decision¹⁸, the inflation forecast should be for the duration of the crediting period. However, since RBI provides forecast inflation only for 5 & 10 years, the project investor has calculated benchmark using 10 years durations and the same is considered as Benchmark for the project activity¹⁹. The cost of equity is determined by selecting the values provided in the Appendix, i.e. Default values for cost of equity (expected return on equity) is presented below: Appendix A specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India = 10.73%

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

¹⁸ It is to be noted here that at the time of investment making decision, Methodological Tool for Investment Analysis version 07 (EB 92 Annex 5) was applicable, however Request for Registration can be submitted only till 28/06/2018. Hence PP has used Methodological Tool for Investment Analysis version 08 for which RFR can be submitted till 26/07/2019. Moreover, it is to be noted that assessment team compared the detail of both version 07.0 and version 08.0 of the methodological tool and observed that there is no major difference in both the version except for the change of default value for benchmark calculation. The default value as mentioned in version 07 was 11.10 % for group 1 project in India and Value as mentioned in version 08 is 10.73% for group 1 project in India which is clearly more conservative than version 07 value. Also, as described above since version 07 RFR submission is valid till 26/07/2019 and hence version 08 is used which is appropriate and more conservative for benchmark calculation. Also, the grace period time is 240 days after the issuance of 09.0 (latest investment tool), and hence version 08.0 is applicable.

¹⁹ Since RBI provides inflation forecast only for 5 years and 10 years, hence inflation forecast for 10 years is being considered keeping in view length of crediting period to be 7 years.

Nominal Benchmark²⁰ = $\{(1 + \text{Real Benchmark}) * (1 + \text{Inflation rate})\} - 1$
 Where:

- Default value for Real Benchmark = 10.73% (as per Appendix of EB 97, Annex 8)
- Inflation Rate forecast by Reserve Bank of India (RBI) (i.e. Central Bank of India) for India & in case where RBI Inflation forecast was not available, average Inflation rate forecast for India has been sourced from IMF web site.

Benchmark estimation:

Appendix in EB 97, Annex 8 specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India = 10.73 %

Inflation Forecast for India as per RBI website²¹ :

Since RBI publishes the inflation forecast for 5 years and 10 years, PP has considered the maximum 10 year inflation considering the renewable crediting period of project activity.

Benchmark Calculations	Value	Sources Link	Document Date
Default Value for India as per UNFCCC guidelines	10.73 %	EB 97 Annex 8	01/11/2017
Inflation forecast (WPI Mean) as per RBI for 10yrs	4.00 %	https://rbi.org.in/Scripts/PublicationsView.aspx?id=17458	06/04/2017
Benchmark (with 10yrs Forecast)	15.16 %	Calculated	

Thus benchmark of 15.16 % has been selected for this project activity.

b) Parameters and assumptions used:

The project activity is a renewable source of electricity generation and uses the generated electricity for captive purpose using Indian National grid. The key parameters which determine the Equity IRR of the project activity are project cost, PLF and profitability estimates.

Input values used in all investment analysis shall be valid and applicable at the time of the investment decision taken by the project participant which can be clearly validated by the DOE, thus it complies with guidance 10 of EB 97, Annex 8. Key assumptions used for calculating post-tax Equity IRR applicable at the time of investment decision, which is in line with are set out below

Project cost as per the Offer Letter

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Project Cost (In Million)	Offer letter Date

²⁰As per Fisher Equation, https://en.wikipedia.org/wiki/Fisher_equation

²¹ <https://rbi.org.in/Scripts/PublicationsView.aspx?id=17458>

Koppal	Shree Cements Limited	21 MW	1,319.00	25/07/2017
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Actual Project cost as per Purchase Order

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Project Cost (In Million)	PO date
Koppal	Shree Cements Limited	21 MW	1149.03	29/11/2017

Offer Letter to elaborate the project cost has been submitted to validation team. The Offer letter was available during decision making and financial profitability of the project was decided based on this Offer letter. Validation team checked the Offer letter of the project activity and found that consideration of the project cost in revised PDD Version 04 is correct and it is in line with Investment guideline as well as in compliance to CDM Validation and Verification Standard for project activities version 02. Hence, the project cost consideration is justified. Assessment team checked the actual project cost and still the project do not breach the benchmark. The sensitivity analysis below confirms the same. Since the actual cost is considered there is no way the cost can go up and thus the same is assessed to be correct.

In India, infrastructure projects are generally entitled to a debt equity ratio of 70:30. However, depending on the relationship of the client with the bank, its credit rating and collaterals offered, banks consider higher debt equity ratio also. However, no Loan is availed for the project and thus post tax equity IRR calculation is justified as no debt is involved.

The profitability of the project, which forms the basis for IRR calculation is based on installed capacity, PLF, electricity tariff, O&M cost, depreciation and taxation.

c) Assessment of Plant Load Factor (PLF):

PP considered the Plant load factor from a third party engineering company, for expected electricity generation estimation. They are contracted by the PPs for this project. PP has submitted the copies of the PLFs estimation report to the assessment team.

PLF as per 3rd party PLF report

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	PLF (%)= 3rd party engineering company	PLF (%)= As per tariff order	Date
Koppal	Shree Cements Limited	21 MW	26%	26%	13/07/2017

PLF estimation in offer letter is in line with Para 3 (b) Annex 11, EB 48 and acceptable to the assessment team.

The Actual PLF is 21% based upon the Generation achieved by the project activity.

The equity IRR with Real PLF is 4.39% and the breaching value against real PLF is 123% which is highly unlikely scenario.

D) Assessment of Electricity Tariff:

Tariff rate as per Wheeling Agreement

Site Name	Name of the Investor/Owner/SPVs	Tariff Rate (as per state tariff order)	Tariff Rate (as per wheeling agreement)
Koppal	Shree Cements Limited	3.74	3.74

Validation team assessed the tariff and found that same value was available during decision making and in conformity with guidance tool for Investment analysis. Furthermore, assessment team has also checked the actual tariff as per the electricity bills for further substantiation as these values are available during the validation stage. IRR is still below benchmark with the consideration of Wheeling Agreement signed which is valid for total operational lifetime of the project.

e) Assessment of O& M cost:

O&M as per Offer letter

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	O&M (In Million) (Without tax)	Offer letter Date
Koppal	Shree cements limited	21 MW	18.90	25/07/2017

The actual O&M agreements were also signed by PP and the values are mentioned in the below table.

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	O&M (In Million) (Without tax)	Date
Koppal	Shree cements limited	21 MW	15.25	29/11/2017

The Offer letter has been used in the financial calculation as same was available during decision making and hence applicable. According to Investment guideline, the cost should be based on the input parameters available at the time of decision making and the PP has submitted offer letter supporting this consideration. Therefore, considering the above assessment, validation team concluded that the O&M cost considered from respective offer in the computation of financial indicator is in conformity with guidance.

F) Assessment of Tax computation:

The project developer has adopted book depreciation rates as per Schedule XIV of the Companies Act, 1956 for computing book profit and Income Tax Act 1961 stipulated for income tax calculation, which are in conformity with the accepted accounting principles adopted by the company and income tax laws in the host country. The block of assets has been computed for depreciation purpose as per the accepted accounting principles. Tax liability has been calculated as per the income tax rules and the rulings given. In computing the income tax liability, the project

developers have considered Tax holiday (u/s 80IA of the Income Tax Act, 1961). Accelerated depreciation on plant and machinery is also sourced from IT act. The tax rates assumed corresponds to the tax rate prevailing at the time of taking decision (conformity to Investment guidelines). Hence, these assumptions are appropriate during decision making context.

g) Cross checking parameters:

Name of the parameter	DOE assessment			
Project Cost	The details of the proposed project activity are given below.			
	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Project Cost (In Million)	Project cost in Million per MW
	Shree cements limited	21 MW	1,319.00	62.81
	The project cost has been considered from offer letter which was available at the time decision made for the project activity.			
	The DOE has also checked the actual cost of the each project site from the PO and found that, the reduction in project cost is within the range of sensitivity analysis. Since the comparison is done with actual project cost and hence, increase of the same in future is not possible. Thus, the project activity is additional with actual project cost.			
	Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Project Cost (In Million)- Actual from PO
	Koppal	Shree cements limited	21 MW	1149.03
Project Cost (In Million) per MW- Actual from PO				
The difference in actual project cost for different project site is due to time difference, manufacturer, different EPC contractor, negotiation skills of individual PP etc.				
The assessment team also checked the respective state tariff orders and found that project cost considered for project is found to be appropriate.				
The assessment team also checked the state tariff orders and found that project cost considered for project is found to be appropriate.				
Based on sectoral scope expert and local knowledge, the project cost considered as per offer letter for the proposed project activity is found to be appropriate for Wind projects. Also since the actual cost is available to DOE and IRR is still within benchmark and thus the same is acceptable.				
The IRR as per the assumption from the Offer letter is as follows:				

	Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Project Cost (In Million)	IRR	Benchmark
	Koppal	Shree cements limited	21 MW	1319	6.71%	15.16%
	The IRR as per the actual project cost is defined as below:					
	Site Name	Name of the Investor/Owner	Project Capacity (MW)	Actual project cost as per the PO	IRR	Benchmark
	Koppal	Shree cements limited	21 MW	1149.03	8.13%	15.16%
	As described above actual project cost with benchmark, the project is still additional. Since the comparison is done with actual project cost, the increase of the same in future is not possible. Thus assessment team is of the opinion that project is still additional with the consideration of actual project cost for the project activity.					
	The details of the proposed project activity are given below.					
	Name of the Investor		Project Capacity (MW)	O&M (In Million)		
O&M cost and Escalation in the operational expense =5(%)-Standard practice in India	Shree cements limited		21 MW	18.90		
	The O&M cost has been considered from offer letter and was available at the time decision made for the project activity.					
	The DOE has also checked the actual O&M contract for each project site and found the changes in O&M cost is within threshold limit. Thus the project activity is additional with actual O&M cost.					
	Site Name	Name of the Investor/Owner/SPVs		Project Capacity (MW)	O&M (In Million) (Without tax)-Actual	
	Koppal	Shree cements limited		21 MW	15.25	
	The assessment team also checked the respective state tariff orders and found that O&M cost and its escalation considered for project is found to be appropriate.					
	IRR value as per the assumptions from the Offer letter is as below:					
	Name of the Investor/Owner/SPVs		Project Capacity (MW)	O&M (In Million)	IRR	Benchmark
	Shree cements limited		21 MW	18.90	6.71%	15.16%

IRR value based on the actual O&M agreements signed is as below:

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	O&M (In Million) (Without tax)- Actual	IRR	Benchmark
Koppal	Shree Cements limited	21 MW	15.25	7.14%	15.16%

Even after consideration of Actual O&M cost, the project activity is additional.

Benchmark for the project as described above along with actual O&M value, the project is still additional.

Based on sectoral scope expert and local knowledge, the project O&M cost and its escalation considered as per Offer Letter for the proposed project activity is found to be appropriate for wind projects. Also since the O&M cost is available to DOE and IRR is still within benchmark and thus the same is acceptable.

Tariff

The Tariff rate has been considered from state tariff order and the same was available at the time decision made for the project activity

The DOE has also checked the annual reports of PP and found there are no changes in tariff rate and is within threshold limit. Thus the project activity is additional with actual Tariff rate.

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Tariff Rate as per Wheeling agreement	Tariff Rate as per state tariff order
Koppal	Shree Cements limited	21 MW	3.74	3.74

IRR value as per the wheeling agreement signed between Individual project owners and State electricity Board is as below:

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Tariff Rate (as per wheeling agreement)	IRR	Benchmark
Koppal	Shree cements limited	21 MW	3.74	6.71%	15.16%

PLF

The details of the proposed project activity are given below.

Name of the Investor	Project Capacity (MW)	PLF (%)
Shree cements limited	21 MW	26%

Validation team assessed the PLF report. Same report has been used in the financials and the emission reduction calculation. PLF estimation by 3rd party engineering company is in line with Para 3 (b) Annex 11, EB 48 and acceptable to the assessment team.

The PLF has been taken from the PLF report, and the same has been checked and found that PLF considered for the project activity in within the range of sensitivity analysis and found to be appropriate.

IRR for PLF value as per the DPR = 3rd party report, Annex 11 EB 48

Name of the Investor/Owner/SPVs	Project Capacity (MW)	PLF (%)	IRR	Benchmark
Shree cements limited	21 MW	26%	6.71%	15.16%

IRR as per the PLF value of the Tariff orders= SERC (=State electricity regulatory commission) order. The details link are given above:

Name of the Investor/Owner/SPVs	Project Capacity (MW)	PLF (%) - As per the tariff order of State electricity regulatory commission	IRR	Benchmark
Shree cements limited	21 MW	26%	6.71%	15.16%

Assessment team confirms that since with the value as mentioned in the tariff order for State Electricity regulatory commission report are considered and still the IRR is still below the benchmark, hence the project is additional.

Tax Rates

Income tax rate (%)	30.00%
MAT (Minimum Alternate tax) (%)	33.00%
Service Tax (%)	15.00%

The above table shows the tax rate considered for individual project Owner and the same is found suitable.

Assessment team noted that the project developer has adopted book depreciation rates as per Schedule XIV of the Companies Act, 1956 for computing book profit and Income Tax Act 1961 stipulated for income tax calculation, which are in conformity with the accepted accounting principles adopted by the company and income tax laws in the host country i.e. INDIA. Tax liability has been calculated as per the income tax rules and the rulings given. In computing the

	income tax liability, the project developers have considered Tax holiday (u/s 80IA of the Income Tax Act, 1961). Accelerated depreciation on plant and machinery is also sourced from IT act. The tax rates assumed corresponds to the tax rate prevailing at the time of taking decision. Hence, these assumptions are appropriate during decision making context and thus acceptable to the assessment team. No further assessment is required as the Values are directly procured from Income Tax Act, 1961 which is standard guideline for Tax value in India.
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Sensitivity analysis:

The Guidance on Investment analysis requires the robustness of the conclusion arrived at to be proved through a sensitivity analysis by varying the critical assumptions to a reasonable variation. The project developer has identified Plant Load Factor (PLF), Project cost, Electricity tariff and O&M cost as critical assumptions. These critical parameters constitute more than 20% of either total project costs or total project revenues. The sensitivity analysis reveals that even under more favourable conditions, the IRR without CDM revenue would not cross the benchmark return as given in the following table:

Sensitivity Analysis	Equity IRR			
Variation %	-10%	Normal	10%	Breaching Value
PLF	5.52%	6.71%	7.89%	80.35%
O&M	6.94%	6.71%	6.49%	-519.96%
Project Cost	7.78%	6.71%	5.85%	-48.74%
Tariff Rate	5.52%	6.71%	7.89%	85.35%

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

Probability to breach the benchmark:
Sensitivity Parameter 1 : PLF
PLF considered in financials for is as per Third Party DPR in line with “Guidelines for the reporting and validation of Plant load factors” stated in EB48 Annex11 option 3(b).
Hence, variation in PLF of more than 10% is unlikely to happen as the PLF has been reported as per the Third Party Report based on long term data.
Sensitivity Parameter 2 : O&M
The sensitivity analysis reveals that O&M will breach the benchmark at negative values and is hypothetical case. Since the O&M cost is subject to escalation (as evidence by the O&M agreement) and also subject to inflationary pressure, any reduction in the O&M costs is highly unlikely. Hence, the reduction in the O&M cost is highly unlikely.
Sensitivity Parameter 3 : Project Cost
Project Cost for financial analysis is considered from Offer letter of the project activity, being available at the time of investment making decision to go ahead with the project activity. The actual project cost is lower within 10% than the offer cost. Since the Purchase Order cost is firm, there is no possibility of project cost going below this level. However, Sensitivity is carried out for threshold level below which benchmark is not breached.
Sensitivity Parameter 4 : Tariff Rate
The tariff is determined by wheeling agreement which is fixed for entire lifetime of the project activity. Hence, there is no probability to get variation for the same. However, Sensitivity is carried out for +/-10% even then the benchmark is not breached.

Assessment team also confirmed the breaching values for individual parameters and thus confirms that the project is still additional

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Offer letter Project Cost	Actual Project Cost	Variation in Project Cost	Breaching Value for Project cost
Koppal	Shree Cements limited	21 MW	1319	1149.03	13%	-48.74%

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	O&M Cost from Offer letter	Actual O&M Cost from PO	Variation in OM cost	Breaching value for OM Cost
Koppal	Shree cements limited	21 MW	18.90	15.25425	-19%	-519.96%

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Tariff Rate as per tariff order	Actual Tariff from wheeling agreement	Variation in Tariff Rate	Breaching value for Tariff Rate
Koppal	Shree cements limited	21MW	3.74	3.74	0%	85.35%

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	PLF as per PLF Report	PLF as per tariff order	Variation in PLF	Breaching value for PLF
Koppal	Shree cements limited	21 MW	26%	26%	0%	80.35%

Common Practice analysis:

The common practice analysis is proved by following points as per the requirement of Methodological tool "Common Practice", version 03.1 EB84, Annex 7²²:

1. Applicable Geographical Area (Para 9): The Karnataka state has been considered as the applicable geographical area for this project. PP had considered the state Karnataka as geo-graphical area due to regulatory regime since applicable power tariff structure for renewable energy projects is unique for all the states across national boundary of India; which is based on Electricity Act 2003 (EA 2003), section 82 which clearly mentions "Every State Government shall, within six months from the appointed date, by notification, constitute for the purposes of this Act, a Commission for the State to be known as the (name of the State) Electricity Regulatory Commission" Appropriateness of the same has

²²<https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-24-v1.pdf>

been checked and confirmed from EA 2003 (<http://www.cercind.gov.in/08022007/Act-with-amendment.pdf/40/>).

Furthermore, following significant points on the State specific policy & regulatory framework on the renewable energy projects with special emphasis to Wind power projects have been validated:

- Electricity Act 2003 (EA 2003) has changed the legal and regulatory framework for the renewable energy sector in India. The EA 2003 mandates policy formulation to promote renewable sources of energy by the federal government, the State governments and the State Electricity Regulatory Commissions (=SERCs) within their jurisdictions.
- The Electricity Act 2003 introduced some enabling provisions conducive to accelerated development of grid connected renewable energy sources. Under Section 61(h), promotion of cogeneration and generation of electricity from renewable sources of energy has been made the explicit responsibility of SERCs, which are bound by law to take these considerations into account while drafting their terms and conditions for tariff regulations. Nearly all SERCs have issued their tariff regulations incorporating suitable clauses, which will enable them to provide a preferential treatment to renewable energy (RE) during the tariff determination process. The SERCs determine the tariff for all renewable energy projects across the States, and the state-owned power Distribution Companies (DISCOMs) ensure grid connectivity to the renewable energy project sites.
- EA 2003 has initiated the adoption of the National Tariff Policy, 2006 as one of the key policies, National Tariff Policy (2006) framed under the Section 3 of the EA 2003. As per the excerpt from National Tariff Policy, 2006; pursuant to provisions of section 86(1)(e) of the EA 2003, the Appropriate Commission shall fix a minimum percentage for purchase of energy from such sources taking into account availability of such resources in the region and its impact on retail tariffs. Such percentage for purchase of energy should be made applicable for the tariffs to be determined by the SERCs latest by 01/04/2006.
- As mandated under section 86(1)(e) of the Electricity Act (2003), by 26/06/2012 SERCs had fixed quotas (in terms of % of electricity being handled by the power utility) to procure power from renewable energy sources. The mandate, which is called a Renewable Purchase Specification (RPS), varies from 0.5% to 14% in various states over varying time-scales. Few states have come out with technology specific RPSs. Besides, the state regulators determine the tariff for all RE projects in the states and ensure connectivity to the grid through extension of power evacuation from the RE project sites
- At present thirteen SERCs have declared preferential feed-in tariffs (FITs) for purchase of electricity generated from Wind power projects established in respective states, which varies from state to state in India. All the SERCs have adopted a 'cost plus' methodology to fix the feed-in tariff, which varies across the states depending upon the state resources, project cost and more importantly the tariff regulations of SERCs. Water power related tariff policies in different states also has difference in regulatory and policy incentives. Several states have implemented fiscal and financial incentives for renewable energy generation, including; energy buy back (i.e. a guarantee from an electricity company that they will buy the renewable power produced); preferential grid connection and transportation charges and electricity tax exemptions

Therefore the investment climate for the renewable energy projects varies from State to State within India due to state specific local policy & regulatory framework as outlined by the State Electricity Regulatory Commissions of the respective state. This difference in investment condition

leads to essential distinction among wind energy projects between different States of the host country India.

Thus, the specific geographical area i.e. state of Karnataka for the common practice analysis of the proposed project activity is considered and thus the same is acceptable to the assessment team.

1. Measure (Para 10): The project activity reduces greenhouse gas emissions by generating electricity using renewable energy source- Wind. Therefore, the project activity falls under the following measure:

(b) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies.

2. Output (Para 11): The project activity produces electricity. Therefore, electricity is considered as output of the project activity.
3. Different Technologies (Para 12): The project activity uses wind energy for producing electricity and hence as per Para 12(a), the technologies which use energy source/ fuel other than wind will be considered as the different technologies for the project activity.

For the concerned project activity, Common Practice Analysis has been carried out for 21 MW capacities Wind Power Project at Karnataka

Stepwise approach for common practice analysis has been carried out as per Methodological tool "Common Practice", version 03.1 EB84, Annex 7:

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

Range	Capacity	Unit
+50%	31.5	MW
Capacity of the proposed project activity	21	MW
-50%	10.5	MW

Since the project activity is 21MW, the output range of +/- 50% has been considered as 31.5 MW (Higher range for comparison) to 10.5 MW (Lower range for Comparison) which is assessed to be correct.

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

- (a) The projects are located in the applicable geographical area;
- (b) The projects apply the same measure as the proposed project activity;
- (c) 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;
- (d) 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;
- (e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;
- (f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.

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

- a) Assessment team noted that as the projects are located in Karnataka state of India, therefore, projects in the geographical area of Karnataka have been chosen for analysis. Each state has different policies regarding renewable energy, hence Karnataka state is considered as geographical region for common practise analysis. The distinction from choosing the state to entire geographical boundary is already explained above in the report and thus the applied geographical area is acceptable to the assessment team.
- b) Assessment team noted that 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.
- c) Assessment team confirms during the site visit that the energy source used by the project activity is Wind. Hence, only Wind energy projects have been considered for analysis.
- d) Assessment team confirms during the site visit that the project activity produces electricity; therefore, all power plants that produce electricity are candidates for similar projects.
- e) Since the project activity is 21MW, the output range of +/- 50% has been considered as 31.5 MW (Higher range for comparison) to 10.5 MW (Lower range for Comparison) which is assessed to be correct
- f) The start date of the concerned project activity is 29/11/2017. Therefore projects, which have started commercial operation before 29/11/2017, have been considered for analysis.

Numbers of Similar projects identified, which fulfil above-mentioned conditioned are
 $N_{wind} = 11$

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} .

The project activities, which have got registered or are under validation, have been excluded in this step. The list of the power plants identified is provided to the DOE. After excluding the registered and under validation projects the total number of projects.
 $N_{all} = 3$

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

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

1. Size of Installation – Since project activity is large scale project, small and micro scale projects are considered as different technology project. Based on these criteria, there is no any different technology project out of similar identified projects.

2. Investment climate on the date of the investment decision – For proposed project activity, there are no any different technology project considered out of similar identified projects.

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

$$N_{diff} = 0$$

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

Calculate $F = 1 - N_{diff}/N_{all}$
 $F = 1 - (0/3) = 1$

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

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

Outcome of Common Practise analysis:

As,

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

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

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

Thus, the proposed project activity is not a “common practice” within a sector in the applicable geographical area. The above discussions show that wind power development is not a common practice and the project activity is not financially attractive; hence the project activity is additional.

Project timeframe

- **Previous Announcement check:** The project activity has considered the revenue of carbon while planning for the project activity. The information was validated from the GS4GG-PDD and found to be consistent.
- **Retroactive crediting:** The project applies for Gold Standard VERs under retroactive project cycle and thus became eligible for receiving credits for realized emission reductions prior to the date of registration for two years period.
- **Other certification scheme:** The project activity has not applied, confirmed by project developer, for any other certification like Green or White certification. Therefore, the validation team concluded that the project activity meets the applicability criteria of Gold Standard. Assessment team checked the double counting clarification vide GS guideline on double counting in the context of Green Certificate Schemes, 22 January 2015. A declaration dated 10/04/2019 confirms that the project activity is not taking any REC Benefits under REC mechanism. The project is applied for GS VER retroactive validation. Assessment team also checked the REC web site (<https://recregistryindia.nic.in/>) and

confirms that the project is not undertaking any REC benefits at present nor intended to take it in near future.

Further the Validation team crosschecked CDM and VCS websites to crosscheck the project inclusion in any other mechanisms but it was not applicable to the project activity.²³

3.8 Calculation algorithm and/or formula used to determine emission reductions

The baseline emissions as discussed in section B.6.1 will include emissions that would have occurred in the absence of the project activity. The emission reduction calculation has been done as per the LSC methodology ACM0002 version 20.

Baseline Emission:

As per the approved consolidated Methodology ACM0002 version 20.0:

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants. The baseline emissions are to be calculated as follows:

Baseline Emission (BE_y)

The baseline emissions are the product of electrical energy baseline EG_{PJ,y} expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.

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

Where:

BE _y	=	Baseline emissions in year y (t CO ₂)
EG _{PJ,y}	=	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y in MWh
EF _{grid,CM,y}	=	Combined margin CO ₂ emission factor for grid connected power generation in year y

$$BE_y = 47,829 \text{ MWh/annum} \times 0.9368 \text{ t CO}_2/\text{MWh}$$

$$= 44,806 \text{ t CO}_{2e}/\text{annum}$$

$$ER_y = BE_y - PE_y$$

Where:

$$ER_y = \text{Emission reductions in year y (t CO}_{2e})$$

$$BE_y = \text{Baseline emissions in year y (t CO}_{2e})$$

$$PE_y = \text{Project emissions in year y (t CO}_{2e})$$

$$\text{Therefore, } ER_y = 44,806 - 0$$

²³ <https://www.vcsprojectdatabase.org/#/projects>
<https://cdm.unfccc.int/>

= **44,806** t CO_{2e}/annum

SDG 13 Climate Action

The baseline emissions are the product of electrical energy baseline EG_{PJ,y} expressed in MWh of electricity produced by the renewable generating unit multiplied by an emission factor.

Year	Baseline estimate	Project estimate	Net benefit
Year 1	44,806	0	44,806
Year 2	44,806	0	44,806
Year 3	44,806	0	44,806
Year 4	44,806	0	44,806
Year 5	44,806	0	44,806
Total	224,030	0	224,030
Total number of crediting years	5		
Annual average over the crediting period	44,806	0	44,806

SDG 7: Affordable and Clean Energy

Year	Baseline estimate	Project estimate	Net benefit
Year 1	0	47,829	47,829
Year 2	0	47,829	47,829
Year 3	0	47,829	47,829
Year 4	0	47,829	47,829
Year 5	0	47,829	47,829
Total	0	239,145	239,145
Total number of crediting years	5		

Annual average over the crediting period	0	47,829	47,829
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Since project activity is renewable electricity generation, the quantity of Affordable and Clean Energy is mentioned under project estimate. In baseline, no any renewable energy generation, hence mentioned as zero.

SDG 8: Decent Work and Economic Growth

The project leads to employment opportunities which would not have been possible in the baseline scenario. The project provides employment to around 10 persons.

Also project activity improves the quality of employment by giving training to employee. Thus 1 training per year will be conducted by the project activity.

4. REFERENCE

S. No.	Document/Evidence/Reference/Web link, Version, Date
1.	Initial GS4GG PDD, version 02 dated 13/12/2018 Final GS4GG PDD, version 04 dated 06/12/2019 based on which opinion is provided
2	Board Resolution dated 29/09/2017
3	LOI of project WTG's given to Suzlon dated 29/11/2017
4	PLF Report from Independent consultant dated 13/07/2017
5	Offer Letter by Technology supplier dated 25/07/2017
6	Commissioning Certificate of project WTG's
7.	Minutes of Meeting for Local Stakeholders' Consultation
8.	Emission Reduction Sheet for the project activity dated 13/12/2018, Version 02 Revised Emission reduction sheet dated 28/06/2019, version 03
09	Wheeling and Banking agreement between Shree Cements and Karnataka Power Transmission Corporation Limited dated 25/07/2018
10	Sample B Form for Feb 2019 for project monitoring plan
11	Methodology: ACM 0002 version 20.0
12	Standard: CDM Project Standard Version 02
13	Standard: CDM Validation & Verification Standard Version 02
14	Procedure: CDM Project Cycle Procedure Version 02
15	Tools: • Tool to calculate the emission factor for an electricity system, Version 7.0
16.	GS4GG guideline
17.	Stakeholders consultation process in CDM-PDD
18.	Training Records of project staff at site

19.	Declaration for non-receiving of ODA for project
20.	Universal declaration of Human Rights http://mha.nic.in/Human_Rights_Division
21.	Ministry of Labor http://labour.gov.in/upload/uploadfiles/files/footergallery_pdf/List%20ofILO%20Conventions%20Ratified%20by%20India.pdf
22.	National Prevention of Corruption Act of Government of India http://www.persmin.gov.in/DOPT/EmployeesCorner/Acts_Rules/PCAct/pcact.pdf
23.	Ministry of Environment and Forest http://moef.nic.in/division/environment-protection
24.	Minutes of Meeting for Stakeholders' Feedback Meeting
25.	Emails sent to NGO, Stakeholders, villagers for stakeholder feedback round
26.	UNFCCC Website for CDM mechanism– http://cdm.unfccc.int/
27.	HR employment records of the project staff on site
28.	Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects Ministry of New and Renewable Energy (MNRE) , September 2013

5. FINAL PROJECT DESIGN CERTIFICATION STATEMENT

Applus+ Certification have performed a validation of the "21 MW Wind Energy Project by Shree Cement Limited". The validation was performed on the basis of UNFCCC criteria, Gold Standard GS4GG guideline and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the GS4GG PDD and the subsequent follow-up interviews has provided Applus+ Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project meets all relevant UNFCCC and Gold Standard requirements for the Gold Standard and all relevant host country criteria. The project will hence be recommended by Applus+ Certification for registration with the Gold Standard Registry.

By displacing fossil fuel-based electricity with electricity generated from a renewable source, the project results in reductions of CO₂ emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of annual emission reductions of 44,806 tCO₂e per year.

The validation has been performed following the requirements of the latest version of the CDM validation and verification standard for project activities version 02, Gold Standard GS4GG guideline and on the basis of the contractual agreement.

In detail the conclusions can be summarized as follows:

- The project does not result in negative social, environmental and/or economic impacts.
- The project contribution to Environment, Social Development and Economic and technological development
- The project additionality is sufficiently justified in the Gold Standard PDD
- The project does not result in diversion of ODA.
- Conservative assumptions were applied in the project description.
- The monitoring plan of SD parameters is transparent and adequate.
- The project meets the stakeholder consultation requirements.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Date: 06/12/2019

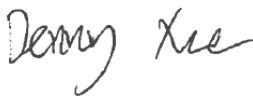
Lead Auditor: Mr. Sukanta Das

Tech. Expert: Mr. Sukanta Das

Tech. Reviewer: Mr. Denny Xue

Approver (*Applus+ Certification Business Unit Managing Director*)

Mr. Juan Sendín Caballero

ASSESSMENT TEAM	
Team Leader Mr. Sukanta Das	Technical Reviewer: Mr. Denny (Hanshen) Xue
Signature: 	Signature: 
Approver: Mr. Juan Sendín Caballero	
Signature: 	

Appendix 1: Corrective Action Request/Clarification Request/Forward Action Request resolution table

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Mr. Sukanta Das	Ref. to checklist in GS4GG PDD:	A.3, A.5. A.7
Description of the audit finding		Date:	22/02/2019
- As per section A.3 the legal rights of the project participant is justified. However, supporting documents like Commissioning Certificate and Contract with EPC Contractor is missing. - In section A.5 the technical details are mentioned however the supporting documents for technical details of the WTGs are not submitted to the assessment team. - IN section A.7, it is mentioned that project has not used any ODA. However, the supporting of the same is also missing.			
Project Participant's response		Date:	29/06/2019
- Supporting documents of the project like commissioning certificate and EPC contract is submitted to the Validation team - Supporting documents for technical specifications of the project is submitted to the Validation with revised GS4GG PDD. - No ODA Declaration is submitted for the project activity to the assessment team.			
Documentation provided as evidence by Project Participant			
- Commissioning Certificate and EPC Contract - Technical Brochure of WTG - Purchase Order for the WTG - No ODA Declaration			
Auditor's assessment comment		Date:	17/08/2019
Following are the observation of the DOE: - The commissioning certificate and EPC contract is checked and found correct. Hence, assessment team confirm that the legal rights clause is found correct. CAR is closed - The Technical brochure is now submitted to the assessment team. CAR is thus closed - The No ODA declaration is now submitted to the assessment team. CAR is thus closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Mr. Sukanta Das	Ref. to checklist in GS4GG PDD:	A.8
Description of the audit finding		Date:	22/02/2019
- In section A.8 India is party to "Convention on the Elimination of All Forms of Discrimination against Women²⁴" and the project has aligned its policies/CSR reports which do not discriminate on gender. The supporting policies documents for the same is not submitted to the assessment team - Section A.8 mentions that since the project is applying for GS registration, a Stakeholder Feedback round would be carried out accordingly. The supporting documents are missing and thus this section is reserved till then. - The explanation regarding Gender Equality and Women's Rights" is missing in section A.8. Moreover, how the objective would be achieved is not clear. Detail explanation along with supporting is required. Corrective action is sought.			
Project Participant's response		Date:	29/06/2019
- Shree Cement Limited does not create any form of discrimination among men and women and further CSR policy of the PP can be obtained from below mentioned weblink. https://www.shreecement.com/pdf/shree_csr_policy_final.pdf - As a part of GS Registration process, a stakeholder feedback round had been initiated on 29/12/2018 and expired on 02/03/2019. The comments or suggestions received during the process was being taken care of and detailed process is explained in GS4GG PDD as well. Supporting for the same i.e. email copies has been submitted to the validation team. Also a physical stakeholder feedback round was organised at project site on 16/09/2017 and the stakeholders extended their full support for the project. - The explanation regarding gender equality and women's right has been updated in PDD Version 03 Section A.8. Also the project beneficiaries in terms of employment and social upliftment of the area are common for both the gender. Also the details about the same has been mentioned in section A.8 of PDD.			
Documentation provided as evidence by Project Participant			
PDD Version 02 CSR Policy of PP SFR Email copies			
Auditor's assessment comment		Date:	17/08/2019

Following are the observation of the DOE:

1. The CSR policy for the PP i.e. Shree Cement Limited is checked by the assessment team and it is confirm that PP does not create any form of discrimination among men and women. Equal opportunity is provided to Men and Women as per the merit and requirement of the company. CAR is thus closed
2. Stakeholder feedback round had been initiated on 29/12/2018 and expired on 02/03/2019. No comment received from the stakeholders regarding the project. Also a physical stakeholder feedback round was organised at project site on 16/09/2017 and the stakeholders extended their full support for the project. CAR is thus closed.
3. The explanation as provided in section A.8 of the revised GS4GG PDD version 03 is acceptable to the assessment team. Equal opportunity is provided to Men and Women as per the merit and requirement of the company. CAR is closed.

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Mr. Sukanta Das	Ref. to checklist in GS4GG PDD:	B.5
Description of the audit finding	Date: 22/02/2019		
Following observation is noticed by DOE for the additionality assessment: 1.The prior consideration documents as mentioned in section A.1 of the PDD is missing Corrective action is sought.			
Project Participant's response	Date: 29/06/2019		
The prior consideration document is now submitted to the DOE			
Documentation provided as evidence by Project Participant			
GS4GG PDD Version 03			
Auditor's assessment comment	Date: 17/08/2019		
The start date of the project activity is 29/11/2017. The project submitted for pre-liminary review to GS on 24/10/2018 which is within 1 year of project start date and Hence, assessment team conclude that the project meet the prior consdiration criteria. CAR is thus closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Mr. Sukanta Das	Ref. to checklist in GS4GG PDD:	B.6.1, B.6.2 and B.6.5

Description of the audit finding	Date:	22/02/2019
- The supporting's to the indicator mentioned relevant to SDG is missing. Corrective action is sought for the same. - CSR policy is not submitted to the assessment team. Corrective action is sought for the same - As per SDG 8: Decent Work and Economic Growth : The project leads to Trainings & workshops which are conducted for the O&M staff of Manufacturer as well as for the O&M staff of the PP, by their respective companies. Moreover, PDD claims equal pay for equal work, Person with Disability also get decent work. The statements is not backed by proper evidences. - No. of trainings provided to the employees – Supporting missing - Employment generated due to project activity - Supporting missing - The employment records/Salary slips- Supporting missing - The basis for baseline estimate and project estimate in Section B.6.5 is missing. - The emission reduction sheet is not submitted - The PLF compliance as per Annex 11 EB 48 is not provided.		
Project Participant's response	Date:	29/06/2019
- Supporting documents for the relevant SDG's are submitted to the validation team. For SDG 7 and 13 ER Estimation sheet and for SDG 8, Training records and salary slips and employee agreements has been submitted. - CSR Policy of Shree Cement can be viewed from the weblink : https://www.shreecement.com/pdf/shree_csr_policy_final.pdf - Supporting for the below parameters are provided to the Validation team - Training Records - Employment Records - Sample Salary Slips - The justification of baseline estimate and project estimate is mentioned in Section B.6.5 of the PDD. - The emission reduction sheet is submitted to the assessment team for their review - PLF Report complying to Annex 11 EB 48 has been submitted with revised PDD		
Documentation provided as evidence by Project Participant		

1. The emission reduction sheet is submitted to the assessment team for their review
2. Salary Slips
3. ER Estimation sheet
4. GS4GG PDD Version 03
5. Third Party PLF Report of the project site

Auditor's assessment comment	Date:	17/08/2019
Following are the observation of the DOE: 1. For SDG 7 and 13 ER Estimation sheet and for SDG 8, Training records and salary slips and employee agreements has been submitted. The documents are correct and thus the CAR is closed. 2. The CSR policy for the organization is viewed from the web site https://www.shreecement.com/pdf/shree_csr_policy_final.pdf. The CSR work is also checked and found correct. CAR is thus closed. 3. The supporting documents like training records, employment records and Salary slips are now submitted. CAR is thus closed 4. The basis for baseline estimate and project estimate in Section B.6.5 is now included. CAR is thus closed 5. PLF Report complying to Annex 11 EB 48 is now submitted to the assessment team. CAR is thus closed.		

Type:	☒ CAR	☐ CL/CR	☐ FAR	Number:	05
Raised by:	Mr. Sukanta Das			Ref. to checklist in GS4GG PDD:	B.7.1
Description of the audit finding				Date:	22/02/2019
The supporting documents related to Data and parameters to be monitored is not submitted to assessment team. For example CSR records, trainings & workshops that are given to the respective O&M staffs. • HSE Training Record • Regular Drill Record • Handling of Equipment Training • Soft Skill Training.					
Corrective action is sought for the same.					
Project Participant's response				Date:	29/06/2019

Training Records are submitted to the validation team with PDD Version 02. Trainings were being given for both operational and soft skills		
Documentation provided as evidence by Project Participant		
Training Records HSE Policy Soft Skill Training		
Auditor's assessment comment	Date:	17/08/2019
Training Records are checked by the validation team. Trainings were being given for both operational and soft skills. CAR is thus closed.		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	06
Raised by:	Mr. Sukanta Das	Ref. to checklist in GS4GG PDD:	D.1
Description of the audit finding		Date:	22/02/2019
- As per section 3.3, it is mentioned that the Safety requirement of the workers and community is taken care by the project. Supporting evidences along with site photo is not submitted to the assessment team. - As per section 3.4.2 it is mentioned that the proponent obtained necessary clearances from nodal agencies and NOC from all the Gram Panchayets for establishing the plant. Moreover, the project has all the legal, customary rights on the land. No such evidences submitted to assessment team. - As per section 3.2 the project proponent has a stipulated HR policy that takes into account participation by both men and women. Further, the CSR projects designed are implemented for equal participation of both men and women. No such evidences submitted to assessment team. - As per section 4.3.1, the project activity has developed EHS and social guideline. Supporting documents are missing. - As per section 4.3.4, the project has received environmental clearance from the State Pollution control Board. Further the EHSS Guidelines takes into account the same. Supporting are missing. - As per section 4.3.5, the project during operational phase uses various type of oil/lubricants, grease which are classified as hazardous. These waste are handled in line with hazardous waste management rules and are disposed of accordingly. Supporting evidences missing.			
Project Participant's response		Date:	29/06/2019

1. Safety Policy of the PP as well as of the technology supplier is submitted to the Validation Team. The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments” - PP ensures safe access and planned prevention to avoid any kind of accident. The HSE (Health and Safety Executive) states that best practice when installing and operation of wind turbines requires trained, dedicated working at height maintenance teams to access risks and select appropriate equipment before any work is carried out.

All the safety and hygiene measures are being ensured in order maintain a safe and healthy environment for the workers at site. In case of any emergency, the site incharge will ensure to take adequate action and preventive measures to avoid any miss happening. Further the Health Safety policy of Suzlon can be referred from below weblink¹<https://www.suzlon.com/in-en/end-to-end-solutions/health-safety-and-environment>

2. Nodal Agency clearance of the Project is submitted with PDD Version 02

3. HR Policy of PP is in place that does not discriminate any form of participation from both men and women. Further CSR policy of PP also allows equal participation from both men and women.

4. EHS Policy of the project developer is in place and being followed by Suzlon (technology supplier). The HSE initiative ensures that the safety of the environment and the people working on the project is given utmost importance. Towards this objective, Suzlon has deployed an HSE management strategy : <https://www.suzlon.com/in-en/end-to-end-solutions/health-safety-and-environment>

Documentation provided as evidence by Project Participant

EHS Policy

HR Policy

HSE Policy of PP

Nodal Agency Clearances

Auditor's assessment comment

Date:

17/08/2019

Following are the observation of the DOE:

1. The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments” - PP ensures safe access and planned prevention to avoid any kind of accident. The HSE (Health and Safety Executive) states that best practice when installing and operation of wind turbines requires trained, dedicated working at height maintenance teams to access risks and select appropriate equipment before any work is carried out. All the safety and hygiene measures are being ensured in order maintain a safe and healthy environment for the workers at site. In case of any emergency, the site in-charge will ensure to take adequate action and preventive measures to avoid any miss happening. CAR is thus closed.
2. All the Nodal agency clearances, EHS policies as used by the industry is checked and found correct. CAR is thus closed

3. The EHS policy clearly mentions the disposal of hazardous waste and thus the same is acceptable to the assessment team. The EHS policy of the PP and O&M supplier i.e. Suzlon is also checked and found correct. CAR is thus closed.

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	07
Raised by:	Mr. Sukanta Das	Ref. to checklist in GS4GG PDD:	E
Description of the audit finding	Date: 22/02/2019		
Section E is reserved till the submission of Local stakeholder consultation documents (attendance sheet, Minutes of meeting). Section is thus reserved.			
Project Participant's response	Date: 29/06/2019		
LSHM was being carried out during the Validation process and supporting documents are submitted herewith. However as a part of GS4GG registration process, a Global Stakeholder Feedback Round was being initiated on 29 Dec 2018 for 60 days however no any comments were being received. Also a part of continuous grievance mechanism, a register is being placed at project site, wherein any stakeholder can register their complaints or suggestions for continual improvement. Further a physical stakeholder meeting was organised at project site and the stakeholders expressed their support to the project.			
Documentation provided as evidence by Project Participant			
SFR Email copies PDD Version 03 Stakeholder Meeting documents like attendance sheet, MOM etc.			
Auditor's assessment comment	Date: 17/08/2019		
The GSC stakeholder round is conducted for 60 days period as required by the GS. No comments received as checked by the assessment team during this period. A physical stakeholder round is also conducted for the local stakeholders and assessment team checked from the MoM that locals are happy with the implementation of the project activity. Also a part of continuous grievance mechanism, a register is being placed at project site, wherein any stakeholder can register their complaints or suggestions for continual improvement. Based on the above directions and guideline, CAR is thus closed.			

Preliminary Review findings from GS dated 13/12/2018 and assessment of the same by the DOE:

Comment/Request 1. Project Information and Project Participants
1. Evidence of project operational lifetime equal to 25 years shall be submitted for GS review. 2. Please provide emission reduction calculation sheet.
Response by Project Proponent – 1st round
1. For all wind projects, the lifespan of wind turbines in varies from 20-25 years. For proposed project activity, the lifetime is considered as 25 years. The same can be verified from CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2017, which clearly mentioned that useful life of wind power projects is 25 years. Please refer below web link http://www.cercind.gov.in/2017/regulation/Noti131.pdf As per Generic Tariff for Wind Power Projects Dated 16th, May, 2018 before the Karnataka Electricity Regulatory Commission, Bangaluru, has considered the life of wind power projects as 25 years. Also tenure of PPA follows for life of wind power projects i.e 25 years. Please refer below web link https://www.karnataka.gov.in/kercc/Miscellaneous%20Orders%20%202018/Orders%20-%202018/Generic-Tariff-for-Wind-Power-Project-2018.pdf 2. The emission reduction calculation sheet is submitted now
Response by DOE
As per Generic Tariff for Wind Power Projects Dated 16th, May, 2018 before the Karnataka Electricity Regulatory Commission, Bangaluru, has considered the life of wind power projects as 25 years. Also tenure of PPA follows for life of wind power projects i.e 25 years. Please refer below web link https://www.karnataka.gov.in/kercc/Miscellaneous%20Orders%20%202018/Orders%20-%202018/Generic-Tariff-for-Wind-Power-Project-2018.pdf. The findings can be closed

The estimated emission reduction sheet is checked and found correct by the assessment team. The findings can be closed

3. Demonstration of Additionality

1. Please also refer to Tool 27 investment analysis for the additionality assessment. <https://cdm.unfccc.int/methodologies/PAmethodologies/approved>

Response by Project Proponent – 1st round

1. At the time of decision made of project activity, methodological tool "Investment Analysis" available tool to PP has been considered and the same tool for default value of return on equity is used. The same tool is referred for demonstration of additionality.

Response by DOE

Please refer the text in Principle 5 of this report. The reference of the tool and its use is explained in a detail manner. The findings can be closed

4. Monitoring Plan

1. Please refer to <https://cdm.unfccc.int/methodologies/PAmethodologies/approved> for relevant SDG indicator.

Response by Project Proponent – 1st round

The project activity is following the ACM0002 Version 20 and Monitoring plan is followed as per methodology requirement. As per methodology, the Quantity of net electricity generation supplied by the project plant need to be monitored and same is monitored in SG4GG PDD. This parameter is relevant to SDG7 Affordable and Clean Energy and the same is mentioned in PDD.

The emission reductions are estimated or would be calculated based on net electricity supplied to grid by project multiplied by grid emission factor and this Emission reductions parameter is relevant for SDG13: Climate Action. The project activity creates new employment generation and quality of employment is improved through training etc. Thus this parameter is relevant for SDG 8: Decent Work and Economic Growth. Thus monitoring plan of project activity considered these SDG Indicators and monitoring parameters are mentioned in monitoring plan.

Response by GS – 2nd round

Please refer SDG outcome (Principle 2) in this report. The findings can be closed

5. Safeguarding Principles Assessment

1. PP shall review the statement in Section A.8. which states that RE projects are not gender sensitive. All projects are required to demonstrate that they are gender sensitive and that they don't differentiate between women and men.
2. While answering the questions on gender, PP shall provide some information specific to their project and company. For instance, is it ensured that employment opportunities are provided equally? If yes, please produce relevant company policies which state this.
3. PP shall explain whether there are any studies or EIA observations on the project being implemented in bird migratory routes. PP shall provide excerpts of the EIA to back up their claim.

Response by Project Proponent – 1st round

- 1) The typo error is rectified and statement is modified. The project activity is a renewable energy project and does not involve any discrimination between men and women. The project does not adversely impact women or men.

- 2) The PP (Shree Cement Limited) have policies in place and they don't differentiate between women and men. Please refer the policy at <https://www.shreecement.com/pages/policies.php>. The policies clearly mentioned that equal opportunity should be provided to employees.
- 3) As per EIA notification, the wind projects do not require Environmental Impact Assessment. The project activity has no significant impact on the environment. Wind projects are not included in the Schedule I of the EIA notification S.O.1533 (E) dated 14th September 2006 and thus an EIA is not required. Ministry of Environment & forests vide their OM J-11013/41/2006 - IA II (I) dated 13th May 2011 has re-affirmed this and exempted Wind power plants from EIA and EC requirement.

As per Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India), final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (February 29, 2016).

The newly introduced White category of industries pertains to those industrial sectors which are practically non-polluting such as Biscuit trays etc. from rolled PVC sheet (using automatic vacuum forming machines), Cotton and woollen hosiery making (Dry process only without any dyeing/washing operation), Electric lamp (bulb) and CFL manufacturing by assembling only, Scientific and mathematical instrument manufacturing, Wind power generation through photovoltaic cell, wind power and mini hydel power (less than 25 MW).

There shall be no necessity of obtaining the Consent to Operate for White category of industries. Intimation to concerned SPCB / PCC shall suffice.

Since project activity falls under white category and the non-polluting nature of project fulfils the compliance to the local laws and regulations.

Response by DOE

Please refer Principle 2 of this report. The findings can be closed.

Appendix 2: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Mr. Sukanta Das	Mr. Sukanta DAS, has done M. SC in (Electronics and Photonics) and M. Tech in (Energy technology) from Tezpur Central University/ Indian Institute of technology Bombay in India. He is a certified lead auditor for ISO 14001 EMS LA and ISO 9001 QMS LA from International registry for Certified Auditors (IRCA) and Certified Lean Management practitioner from Quality Council of India (QCI). He has more than Nine (9) years of working experience at TUV NoRD/ Re-consult/CRA/APPLUS certifications under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/ CDM Lead Assessor in TUV NoRD and was involved in more than 100 CDM validation and verifications activities in Gold Standard, VCS, CDM projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1, 13 technical areas 1.2/1.1/13.1. Currently he is associated with True Quality Certifications Private Limited and is empanelled with APPLUS certification to carry out GHG audit.
Mr. Denny Xue	Hanshen (Denny) Xue (Master Degree in Environmental Engineering, Bachelor Degree in Thermal Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based on Shanghai. He has 1.5 years of work experiences in CDM project development. Before he joined Applus+ LGAI, he has been worked for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development.