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GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG) REPORT
-
DESIGN CERTIFICATION (VALIDATION)

Project Title:	9.6 MW Wind Energy Project at Jamvadi & Navagam & Kalavad, Jamnagar, Gujarat, India of Rohit Surfactants Pvt. Ltd.
GS project ID:	GS 7589
Internal ID:	24421
Customer:	Rohit Surfactants Pvt. Ltd.
Date:	24/08/2022
Revision:	02

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SUMMARY			
Reference No.	**Date** *(first version)*	**Version No.**	**Date** *(last version)*
A_SYS_TQC_GS 7589	01/04/2022	02	24/08/2022
Client	EKI Energy Services Limited		
Project Title	9.6 MW Wind Energy Project at Jamvadi & Navagam & Kalavad, Jamnagar, Gujarat, India of Rohit Surfactants Pvt. Ltd.		
Project Participants	Rohit Surfactants Pvt. Ltd.		
Project Location	Jamnagar, Gujarat (India)		
Contact Person	Mr. Sushil Bajpai		

GS4GG Version: GS4GG, Ver. 1.2 GS4GG Activity Requirements: RE Activity Requirements Applied Methodology Version: AMS-I.D version 18.0 https://cdm.unfccc.int/filestorage/2/P/7/2P7FS6ZQAR84LG3NMKYUH50WI9ODBC/EB81_repan24_AMS-I.D_ver18.pdf?t=UUp8cXp0ZHRvfDAh3JNdRI4UQezS18VJpPEb The following tools and guidance have been followed (References): • Tool to calculate the emission factor for an electricity system[1] - Version 07.0 (EB 100, Annex 04) Current Methodology Version: AMS-I.D. version 18.0	GS4GG Principles and Requirements V 1.2 UNFCCC CDM Sectoral Scope: 1 GS4GG Scope : 2 Technical Area: 1.2
GS4GG First PDD Version: 01 Date: 08/10/2021	GS4GG Final PDD Version: 03 Date: 23/08/2022
Estimated Annual Emission Reductions: 16,491 tCO_2e per year	

Selected Sustainable Development Goals (SDGs): 7; 8; 13

Estimated Sustainable Development Contributions

Sustainable Development Goals Targeted	SDG Impact	Estimated Annual Average	Units or Products
SDG 7: Affordable and Clean Energy	MWh of renewable energy generated	17,877	MWh/Annum
SDG 8: Decent Work and Economic Growth	Trainings Employees	01 10	No of Training No of Employees
SDG 13: Climate Action	Emission Reduction	16,491	tCO_2/Annum (GS VERs)

Design Certification Summary

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

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Rohit Surfactants Pvt. Ltd. to perform the GS validation of "9.6 MW Wind Energy Project at Jamnagar, Gujarat, India by Rohit Surfactants Pvt. Ltd. " applying the methodology AMS-I.D. version 18.0.

The management of Rohit Surfactants Pvt. Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

A desk review and a physical site visit have been conducted to verify the data submitted in the GS4GG PDD. Applus+ Certification confirms the following have been reviewed:

a. The GS4GG PDD;
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 1.2
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 describe a total of 05 findings which include:

- 03 Corrective Action Requests (CARs);
- 02 Clarification Requests (CLs/CRs);
- 00 Forward Action Requests (FARs).

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

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 UNFCCC requirements for the CDM and requirements of the Gold Standard. Therefore, Applus+ Certification recommends the project for registration by the GS Registry as a GS VERs project.

ASSESSMENT TEAM		
Team Members	**Type of Resource[2]**	**Organization** *(for OEs)*
Lead Auditor: Mr. Pankaj Kumar	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Expert: Mr. Pankaj Kumar	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Reviewer: Mr. Simon Shen	☐ IR ☒ EI ☐ OE	-

[2] IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

ABBREVIATIONS	
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
WTG	Wind Turbine Generator

Contents

Appendix:

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

Appendix 2: Audit Team CVs.

1. INTRODUCTION

M/s. Rohit Surfactants Pvt. Ltd. has commissioned Applus+ Certification to perform a validation of "9.6 MW Wind Energy Project at Jamvadi & Navagam & Kalavad, Jamnagar, Gujarat, India of Rohit Surfactants Pvt. Ltd." (hereafter referred to as the project activity). This validation report summarises 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 project activity primarily aims at reducing Greenhouse Gas (GHG) emissions through utilisation of renewable energy technology for generation of electrical energy. The electricity generated from the project activity (approximately 17,877 MWh annually) will displace equivalent electricity generation in grid connected power plants. The project activity will reduce the anthropogenic GHG emissions (approximately 16,491 tCO_2 annually and 65,967 tCO_2 through the crediting period) associated with the equivalent amount of electricity generation from Indian grid connected power plants predominantly fossil fuel based.

The project activity involves installation and operation of a 9.6 MW Wind energy power project in the state of Gujarat in India. The electricity generated from the project activity will be exported to Indian Grid and third party.

The project activity is the installation of a new grid connected renewable power plant/unit and this is not a CPA that has been excluded from a registered CDM PoA as a result of erroneous inclusion of CPAs.

The total cumulative capacity of the current project activity is 9.6 MW; which involves operation of WTGs in the state of Gujarat in India. The project is promoted by M/s. Rohit Surfactants Pvt. Ltd.

The details of the projects and the state of installation are mentioned in the table:

Name of the PP	Capacity (MW)	Connection with Grid	State	Usage of Electricity
Rohit Surfactants Pvt. Ltd.	9.6 MW	Indian Grid	Gujarat	Sale to grid

The same is confirmed during on site visit through Letter of Award and copy of PPA shared by PD.

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+ Certification 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 AMS-I.D version 18.0. The validation was based on the requirements in the Validation and Verification Standard version 03 and Gold Standard GS4GG requirement.

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 Clean Development Mechanism Validation and Verification Standard version 3.0, Gold Standard requirement for GS4GG 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:		*Pankaj Kumar*	
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 evidence 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 the 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. Pankaj Kumar	LA/TE	YES	YES	YES	YES
Mr. Simon Shen	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

As a part of the Validation, the on-site inspection has been performed by the assessment team

Details of interviewees, topics covered and additional information presented below:

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Bajpai	S.K.	PP representative	21/10/2021 – 22/10/2021	Project implementation, Baseline emissions, ER calculations, Sustainable monitoring etc.	Mr. Pankaj Kumar
2	Solanki	P.S.	Site person	21/10/2021 – 22/10/2021	Stakeholder meeting-Employment opportunities, Standard of Livings etc.	
3	Anjan	Abhishek	Consultant, EKIESL	21/10/2021 – 22/10/2021	Stakeholder meeting-Employment opportunities, Standard of Livings etc.	
4	Patel	Hasmukhbhai	Local stakeholders	21/10/2021 – 22/10/2021	Stakeholder meeting-Employment opportunities, Standard of Livings etc.	

The objective of the on-site assessment is to:

- Confirm the implementation and operation of the project;
- Review the data flow for generating, aggregating and reporting the monitoring parameters;
- Confirm the correct implementation of procedures for operations and data collection;
- Cross-check the information provided in the MR documentation with other sources;
- Check the monitoring equipment against the requirements of the PDD, GS PDD and the approved methodology, including calibrations, maintenance, etc.;
- Review the calculations and assumptions used to obtain the GHG data and ER;
- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.
- Confirm the SDG goals/ Sustainable monitoring parameter as per the registered GS PDD
- To understand grievance (if any) from the villagers during the monitoring period.
- Local stakeholder meeting details:

Name of the stakeholder	Mr. Sunil Parmar

Occupation	Villager
DOE QUESTION: Did PP provided employment opportunity to locals? Answer: Yes, employment is generated and the locals are given priority. Assessment team noted that locals were employed for the project activity for the current monitoring period. 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 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	Ms. Zarinaben
Occupation	Local stakeholder
DOE questions: Did the power plant have any harmful impact on farming or vegetations? Answer: NO. The plant is implemented in barren land and there were no any fertile land or crop which is damaged.	

2.4 Resolution of Clarification and Corrective Action requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ Certification positive conclusion on the PDD. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification 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 03 submitted on 23/08/2022 serves as the basis for the final assessment presented.

2.5 Internal Quality Control

As the 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 the 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

This section is not applicable as this is a GS VER project

3.2 Participation

M/s Rohit Surfactants Pvt. Ltd. is the project proponent from the host party India. The host country involved is a party to the Kyoto Protocol and meets requirements to participate in the Gold Standard.

3.3 Scale of the project

The project activity is identified as a Small-scale project in section A.6 of the GS4GG PDD applying a small-scale methodology AMS-I.D. version 18. The total capacity of the power project is 9.6 MW as validated from the PPA and Letter of Award. Since the design capacity of the project activity is less than 15 MW, which is a stipulated limit for small scale projects by GS/CDM, the project is correctly classified as a small-scale project. Assessment team also checked the requirement of latest applicable methodology AMS-I.D version 18.0 and confirmed 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 CO_2 emission by replacing equivalent amounts of electricity from the grid of India. The project type is identified as a 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 and third party 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 the grid by renewable energy. Hence, the greenhouse gas identified in the PDD is carbon dioxide which is duly validated by the VVB.

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

Source		Gas	Included ?	Justification/Explanation
Baseline	Grid connected	CO_2	Yes	Main emission source
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source

Source		Gas	Included ?	Justification/Explanation
	electricity generation	Other	No	No other emissions are emitted from the project
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_2O	No	Project activity does not emit N_2O
		Other	No	Project activity does not emit other forms of GHG emissions

3.5 Project timeframe

Other certification scheme: The project activity has not applied, confirmed by the 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 from PP confirms that the project activity is not taking any REC Benefits under the REC mechanism. The project is applied for GSVER retroactive validation. Assessment team also checked the REC website[3] and confirms that the project is not undertaking any REC benefits at present nor intended to take it in near future. During validation, PD confirmed that this Project is solely developed as a standalone GS VER Project and submitted a declaration that there will not be double accounting of emission reduction for the project activity.

3.6 Project Boundary

As per AMS-I.D version 18 i.e., latest methodologies applied as available on CDM website - "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 the 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 GS project activity. The same is checked by the assessment team during the physical validation audit and found correct.

3.7 Baseline Identification

Being a grid connected wind energy generation project, PP developed the project based on the Methodology AMS-I.D version 18.0. As per the methodology version 18.0: "If the project activity is the installation of a Greenfield power plant, the baseline scenario is electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system".

[3] https://recregistryindia.nic.in/

The project activity involves setting up a wind energy power project to harness the power of wind energy to produce electricity and supply to the grid. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel fired plants. In the absence of the project activity, the equivalent amount of power would have been drawn from the Indian grid. Hence, the baseline for the project activity is the equivalent amount of power from the Indian grid. As the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline and pre-project scenario is the same.

The combined margin ($EF_{grid,CM,y}$) is the result of a weighted average of two emission factors pertaining to the electricity system: the operating margin (OM) and build margin (BM). Calculations for this combined margin must be based on data from an official source (where available) and made publicly available. The CEA database version 17 dated October 2021 is the latest version published by the Central Electricity Authority (CEA), Ministry of Power, Govt. of India. However, the emission factor as per the registered CDM PDD (version 5) is lower than emission factor as per latest version CEA database i.e. 0.9305 tCO2/MWh, hence lower emission factor i.e 0.9225 tCO2/MWh as per registered CDM PDD is considered and the same is acceptable to VVB.

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

Parameter	Value	Nomenclature	Source
$EF_{grid,CM,y}$	0.9225 tCO_2/MWh	Combined margin CO_2 emission factor for the project electricity system in year y	Calculated as the weighted average of the operating margin (0.75) & build margin (0.25) values, sourced from Baseline CO_2 Emission Database, Version 5 dated November 2009 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,OM,y}$	1.0050 tCO_2/MWh	Operating margin CO_2 emission factor for the project electricity system in year y	Calculated as the last 3 year (2017-18, 2018-19, 2019-20) generation-weighted average, sourced from Baseline CO_2 Emission Database, Version 5 dated November 2009 published by Central Electricity Authority (CEA), Government of India
$EF_{grid,BM,y}$	0.6752 tCO_2/MWh	Build margin CO_2 emission factor for the project electricity system in year y	Baseline CO_2 Emission Database, Version 5 dated November 2009 published by Central Electricity Authority (CEA), Government of India

3.8 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 the grid, in the GS PDD, has been calculated in-line with the provisions of applied methodology AMS-I.D version 18.0. 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: Assessment team checked that the project activity is installation of a new grid connected wind power plant/ unit 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: Assessment team checked that the proposed project activity is an installation of a new grid connected wind power plant/ unit and hence a criterion under point (a) is met. The project does not involve any capacity additions, retrofits or replacements and therefore this criterion under point (b) is not applicable.

Applicability 3: Assessment team checked that the proposed project activity is an installation of a new grid connected wind power plant/ unit and not Hydro power plant, therefore this criterion is not applicable for this project activity.

Applicability 4: Assessment team checked that the proposed project activity is an installation of a new grid connected wind power plant/ unit and not Hydro power plant, therefore this criterion is not applicable for this project activity.

Applicability 5: Assessment team checked that the project activity is installation of a new grid connected wind power project/ unit and does not involve switching from fossil fuel to renewable energy, therefore criterion described in point (a) is not relevant to the project activity.

This is a wind power plant/ unit and not a biomass fired plant, therefore criterion described in point (b) is not applicable to the project activity

Applicability 6: Assessment team checked that the project activity is a new grid connected wind power plant/ unit and not a retrofit, replacement or capacity additions and therefore this criterion is not applicable to the project activity.

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

- OM, BM and CM are estimated using the tool under section B.6.1 of the PDD 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 under section B.6.1 of the PDD for calculating baseline emissions.
- The project activity is located in India, a non-Annex I country. Therefore, this criterion is not applicable for the project activity.
- The project activity is a grid connected wind power project and not a hydro power plant. Therefore, this criterion is not applicable for the project activity.

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. AMS-I.D version 18.0 is applicable to the project activity.

VVB also confirms that the project activity complies with the requirement of baseline determination in AMS-I.D version 18.0, which is the latest applicable methodology available to the project participant. The project activity applies grid emission factor as per the CEA database version 05 dated November 2009 and the emission factor applied is 0.9225 tCO_2/MWh. This calculated emission factor is conservative as per tool.

The National CDM Authority (NCDMA), which is the Designated National Authority (DNA) for the Government of India (GOI) under the Ministry of Environment, Forests & Climate Change (MoEFCC), has mentioned four indicators for the sustainable development in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India. 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 provides job opportunities to local people during erection, commissioning and maintenance of the wind machines. Frequency of visiting villages and nearby areas by skilled, technical and industrialists increase due to installation /site visit/operation and maintenance work related to WTGs. This directly and indirectly positively affects the economy of villages and nearby areas.

II. Economic well-being:

The GS project activity generates permanent and temporary employment opportunities within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and lifestyle 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 a step forward in harnessing the untapped wind potential and further diffusion of wind technology in the region. The project activity leads to the promotion and demonstrates the success of wind projects in the region which further motivate more investors to invest in such projects. Hence, the project activity leads to technological well-being.

Assessment team checked the technical parameters of the project equipment through plant technical specifications shared by the client and confirmed during the physical validation audit. PD confirms that the details as mentioned in the GS4GG PDD, Ver. 02 dated 15/03/2022 are correct.

The project aims to harness wind energy through installation of WTGs with a total installed capacity of 9.6 MW. The technical details of the plant were confirmed through an EPC contract signed and are as follows:

Turbine	Enercon
Rated Power	800 kW
No. of Blades	3
Blade Material	Glass Fibre reinforced Epoxy
Tower	Tubular
Turbine Type	Gearless horizontal
Power regulation	Independent electro-mechanical pitch system for each blade
Cut-in wind speed	3 m/s
Rated wind speed	12 m/s
Cutout wind speed	28 – 34 m/s
Extreme wind speed	59.5 m/s
Rated rotational speed	31.5 RPM
Operating range rot. Speed	16 – 31.5 RPM
Orientation	Upwind
Gear box type	Gear less
Generator type	Synchronous generator
Braking	Aerodynamics
Output voltage	400 V
Yaw system	Active yawing with 4 electric yaw drives with brake motor and friction bearing
Tower	Tubular

Principle 2: Safeguarding Principles

The Safeguarding principles assessment is as below:

Assessment Questions/ Requirements	**Assessment of relevance to the project (Yes/potentially/no)**	**Justification by the assessment team**	**Mitigation measure (if required)**
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	No	1. 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 issues.	Not Required

Declaration of Human Rights 2. The Project shall not discriminate with regards to participation and inclusion		Further, the Project meets the local labour law requirements thus does not cause any human rights abuse. India has ratified the United Nations Human Rights Rules and regulations. The India ratified the same as per web link[4] given below. 2. Project activities are not expected to cause any human rights abuse. As a member of United Nations[5] and part of UN Agreement on Human Rights[6], it is ensured by law in India that no action can be taken against human rights. HR policy of the PP is in place which adheres to the human rights issues and promotes equal opportunity for all.	
Principle 2. Gender Equality			
1. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women.	No	1. The Project is not in conflict with the economic livelihood of the local community. No, the project being a wind project does not reduce access to or control of resources for women. Also, the PP has HR policy which clearly mentions that women are treated equally. No, the project does not adversely affect men and women in marginalised or vulnerable communities.	Not required

[4] http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN
[5] https://labour.gov.in/lcandilasdivision/india-ilo
[6] https://www.ilo.org/newdelhi/lang--en/index.htm

2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work. 3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks		Employment opportunities have been provided by the PP to the local people from the nearby villages around the project site which in turn has improved the livelihood and living standards of the local people. No, the HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of their gender. The HR policy of PP is submitted. Yes, the project takes into account gender roles and abilities of women/men. PP has provided employment to both the genders without any discrimination. Also, the HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of their gender. No, the project activity does not contribute to an increase in women's workload. The HR policy of PP mentions that all employees are given equal opportunities and also there is no discrimination. PP also have Anti sexual harassment policy for prevention of any sexual harassment and thus it can be justified that the project contribute towards increased participation of women workload and promotes their active participation. No, the project will not potentially reproduce or it	

4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)		will not deepen discrimination against women based on gender. The HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of their gender. Thus it can be justified that the project contributes towards increased participation of women workload and promotes their active participation. No, the project will not limit women's ability to use, develop and protect natural resources. The HR policy of PP mentions that all employees are given equal opportunities for betterment irrespective of their gender. No, the project activity will not expose women and girls to further risk or hazards. The project does not involve the generation of Hazardous and Non-hazardous Waste. Standard health & safety procedures are followed at site during operation and maintenance. PP follows the National Policy on Safety, Health and Environment at work[7], published by the Ministry of Labour and Employment, Government of India. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women for	

[7] https://labour.gov.in/sites/default/files/SafetyHealthandEnvironmentatWorkPlace.pdf

		Sexual harassment and/or any forms of violence against women – address the multiple risks of gender-based violence, including sexual exploitation or human trafficking. • Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. • Restriction of women's rights or access to resources (natural or economic). Recognise women's ownership rights regardless of marital status – adopt project measures where possible to support women's access to inherit and own land, homes, and other assets or natural resources. Projects applies the principles of non-discrimination, equal treatment, and equal pay for equal work. The equitable participation of men and women is followed in the identified tasks/activities. The project activity ensures the participation of women or men in Project activities and they are getting benefits based on pregnancy, maternity/paternity leave, or marital status. These conditions do not limit the access of women or men, as the case may be, to Project participation and benefits.	

		The project activity follows the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.	
Principle 3. Community Health, Safety and Working Conditions			
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 power based power generation 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 will be taken during construction and operation phase, as well as throughout the operational lifetime of the project activity, also staff will be trained to be able to work with high voltages and occupational health and safety. PP follows the National Policy on Safety, Health and Environment at work[8], published by the Ministry of Labour and Employment, Government of India.	Not Applicable
Principle 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? >>	**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	Not Required

[8] https://labour.gov.in/sites/default/files/SafetyHealthandEnvironmentatWorkPlace.pdf

		will ensure no damage to critical cultural heritage. As per the list of cultural heritage sites in India[9] by UNESCO, it is clear that the project site is not a cultural heritage site	
Principle 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 "Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act", 2013[10]	Not required
>>			
Principle 4.3 Land Tenure and Other Rights			
Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	**No**	No Expropriation has been conducted on any private land involved in project activity. Land has been utilised 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 acquiring the land. The land is acquired on mutual consent between private land owner and PP, thus there are no issues of dissatisfaction of private landowners. The Project Developer holds uncontested land title for	Not Required
>>			

[9] http://whc.unesco.org/en/statesparties/in

[10] https://dolr.gov.in/sites/default/files/Right%20to%20Fair%20Compensation%20and%20Transparency%20in%20Land%20Acquisition%2C%20Rehabilitation%20and%20Resettlement%20Act%2C%202013.pdf

		the entire Project Boundary to complete Project Design Certification. The land rights are with project developers.	
Principle 5. Corruption			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	The project is renewable energy technology (wind power based power generation 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 labour compliance takes into account the same. The project abides by the United Nations Convention Against Corruption. India ratification 09.05.11[11]	Not Required
Principle 6.1 Labour Rights			
1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions. 2. Workers shall be able to establish and join labour organisations	No	Forced labour is an illegal activity in the host country and the local labour compliance takes into account 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[12]. The project activity does not involve any child labour. There are a number	Not required

[11] http://www.unodc.org/unodc/en/treaties/CAC/signatories.html
[12] http://www.ilo.org/dyn/natlex/docs/WEBTEXT/32063/64873/E87IND01.htm

3. Working agreements with all individual workers shall be documented and implemented and include: 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. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion) 5. The Project Developer shall ensure the use of		of training sessions (soft and technical skills) planned for the employees. The agreements are in place for permanent employees. The project prefers local employment and culture is maintained at the project site. The country has strict prohibition for child labour[13]. Thus project does not involve child labour during construction and operation of project activity. The project follows the health, safety and environment guidelines at the 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.	

[13] http://www.indianchild.com/child_labour_law_in_india.htm

appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures.			
Principle 6.2 Negative Economic Consequences			
Does the project cause negative economic consequences during and after project implementation?		The financial sustainability is demonstrated in registered PDD and these calculations are for the entire lifetime of project activity. The project does not involve any negative impacts and no potential risk to the local economy.	
>>			
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project is renewable energy technology (wind power based power generation Technology) and does not lead to any increase in greenhouse gas emissions over the Baseline Scenario.	Not Required
>>			
Principle 7.2 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 the national grid and project activity displaces an equivalent quantity of electricity which would have been generated by fossil fuel dominated grid connected power plants.	Not required
>>			
Principle 8.1 Impact on Natural Water Patterns/Flows			
Will the Project affect the natural or pre-	No	The project is renewable energy technology (wind	Not Required

existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?		power based power generation Technology) and does not affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s).	
>>			
Principle 8.2 Erosion and/or Water Body Instability			
Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	The project is renewable energy technology (wind power based power generation Technology) and does not affect Erosion and/or water body stability.	Not Required
>>			
Principle 9.1 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 impact of this principle.	Not Required
>>			
Principle 9.2 Vulnerability to Natural Disaster			
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	The project is renewable energy technology (wind power based power generation Technology). The Project will not be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides,	Not Required

>>		erosion, flooding, drought or other extreme climatic conditions. Thus, this section is Not Applicable.	
Principle 9.3 Genetic Resources			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	The project is renewable energy technology (wind power based power generation Technology). The Project will not be negatively impacted by the use of genetically modified organisms or GMOs. Thus this section is Not Applicable	Not Required
>>			
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	The power generation from wind project is considered in white category that need not required any consent from the Pollution Control Board[14], as it has zero pollutant release to the environment. Further the EHS guidelines take into account the same. The project does not lead to release of any hazardous substances that pose a 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	Not Required
>>			

[14] http://chocmms.nic.in/SPCB_DOCUMENTS/Categorisation.pdf page 3

		of the Indian Environment Protection Act 1986[15] .	
Principle 9.5 Hazardous and Non-hazardous Waste			
Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The project is renewable energy technology (wind power based power generation Technology). The project does not involve generation of Hazardous and Non-hazardous Waste. Standard procedure is followed at site during operation and maintenance.	Not Required
>>			
Principle 9.6 Pesticides & Fertilisers			
Will the Project involve the application of pesticides and/or fertilisers?	No	The project is renewable energy technology (wind power based power generation Technology) power generation. There is no involvement of pesticides and/or fertilisers. Thus this principle is Not Applicable.	Not Required
>>			
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	The project is renewable energy technology (wind power based power generation Technology) power generation. The project activity does not involve any harvesting of forests. Thus this principle is Not Applicable.	Not Required
>>			
Principle 9.8 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 power based power generation Technology) power generation. The Project does not modify the quantity or nutritional quality of food available.	Not Required
>>			

[15] http://envfor.nic.in/legis/env/env1.html

		Thus this principle is Not Applicable	
Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry? >>	No	The project is renewable energy technology (wind power based power generation Technology) power generation. The Project does not involve animal husbandry. Thus Not Applicable	Not required
Principle 9.10 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	The Project does not affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified.	Not Required
Principle 9.11 Endangered Species			
Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR Does the Project potentially impact other areas where endangered species may be present through transboundary affects? >>	No	There are no endangered species identified at the project site and also no species have the route through the area. The project activity does not impact other endangered species through transboundary effects. The project site is not on the migration route of migratory birds also. It is to be noted that there is no migratory bird route over the project area. Same is evident from the attached figures of migratory bird routes for India. Further, migratory birds fly at very high altitude while height of WTGs is not more than	Not required

		125 metres. Moreover, the area do not fall under any reserved forest and does not have rare or endangered species[16].	

The safeguarding principles relevant to the project activity are justified by PP based on supporting web links and references wherever applicable.

Also the report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013[17] is submitted to VVB. This report clearly mentioned that WTGs operations do not result in direct air pollution/noise pollution.

Furthermore, wind power projects are categorised under the "White category" list of projects from "Central Pollution Control Board of India (CPCB)" on 07/03/2016. "White category of industries pertains to those industrial sectors which are practically non-polluting" considered by the government of India. PP has submitted the letter (No. B-29012/ESS (CPA)/2015-16) of CPCB to all the State pollution control Board.

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 meters. Net electricity generated is obtained from the monthly Statement of net export of power to the grid at the plant site. The other parameters used for net electricity supplied to the grid are mentioned in the monitoring plan. The O&M site-in-charge shall be responsible for the regular recording of data. **QA/QC Process:** This parameter is monitored monthly and the value of the parameter will be cross checked with the invoices. The meters will be calibrated on a regular frequency. **Relevant SDG Target:** 7.2 - By 2030, increase substantially the share of renewable energy in the global energy mix. **Corresponding indicator:** Electricity produced and supplied to the grid. (7.2.1 Renewable energy share in the total final energy consumption)

[16] http://wgbis.ces.iisc.ernet.in/energy/water/paper/TR123/section6.htm

[17] https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf

SDG 8 – Decent Work and Economic Growth: Promote inclusive and sustainable economic growth, employment and decent work for all	**1. Quantitative employment** **2. Quality of employment** **Measurement Method:** Training and employment generation is monitored through training records, staff register or letter from O&M contractor for training and employment details or HSE/HR records. **QA/QC Process:** The number of persons employed would be mentioned in the plant register, which can be cross-checked with daily attendance register, employee records, salary slips of employees or letter from O&M contractor for number of people employed. **Relevant SDG Target:** 8.5.1 - 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:** 1) No. of trainings provided to the employees and O&M staff: 01 training will be provided/year), and 2) No. of employment provided due to project activity: 10 persons/year.
SDG 13 – Climate Action : Take urgent action to combat climate change and its impacts	**Measurement Method:** - The emission reduction parameter is calculated as a product of net electricity supplied to the grid and grid emission factor. The grid emission factor is an ex-ante parameter and is determined based on data obtained from "CO_2 Baseline Database for Indian Power Sector" Version 5 dated November 2009, 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 requirements. **QA/QC Process:** This parameter is calculated, and no QA/QC procedure required. **Relevant SDG Target:** 13.2.1: Integrate climate change measures into national policies, strategies and planning **Corresponding indicator:** Emission reductions in tCO_{2e} from the project activity.

Principle 3: Stakeholder Inclusivity

As per the CDM/GS requirements, it is necessary to invite the relevant stakeholders, before the validation process starts. The details of the stakeholder consultation meeting are as follows:

Location	Invitation date	Meeting Date

Jamvadi, Jamnagar district, Gujarat	11/10/2019	20/10/2019

All the stakeholders have been invited through public notice to attend the stakeholders meeting. The local stakeholders' consultation meeting was attended by local persons including local villagers, local vendors and technology suppliers.

The stakeholders identified by the project participants were local villagers who are the major population of the particular area, local communities and gram panchayat (Village head), Project proponent representatives, O&M Team and other people involved in the project. Validation team verified the list of participants who attended the stakeholder meeting and feedback questionnaire and confirmed the stakeholders identified are relevant. Validation team verified the list of participants who attended the stakeholder meeting and feedback questionnaire and confirmed the stakeholders identified are relevant. The validation team also verified the minutes of the meeting to note that no negative comments were received and the same was cross checked with the information obtained during follow up interviews with the stakeholders.

Thus, the Validation team is of the opinion that the stakeholder meeting was adequate and appropriate.

The project activity is a GSVER 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 dated 27/04/2021 was sent to all the stakeholders for the mandatory 60 days stakeholder's commenting period with a call for public feedback on the project and comments are envisaged from 27/04/2021 to 26/04/2021 The sample of the emails is also submitted to the VVB. The email attachment is also checked by the assessment team and found correct. Following observations are made by the VVB:

- Different representatives of stakeholders like local villagers, head of panchayat, NGOs, PP employees were invited for their comments via emails during the stakeholder's feedback round.
- No negative comments were received during the period starting from 27/04/2021 to 26/04/2021 and local stakeholders were very satisfied with the project activity implementation and operation in their area.

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 delivered by the project plant/unit in MWh	The available parameter to the Project owner is net electricity supplied to the grid and the same is mentioned as the monitoring parameter. The net electricity generation is calculated based on Export, import values from the meters connected at the sub-station. Net electricity is thus calculated based on the values of export and import for the particular billing month. Quantity of net electricity supplied to the grid will be cross checked from the invoices raised by the project proponent. The energy meters used are tri-vector meters which are of accuracy class 0.2. The calculation of net electricity supplied to the grid is under purview of the state electricity board and the Project owner does not have control over 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	Quantitative employment and income generation	The Project participant has documentation pertaining to employment, attendance register and documentary details of training/capacity building. Assessment team also checked the salary slips and confirmed that due to project activity people 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 the 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	The training records are maintained on a regular basis with annual consolidation. Assessment team checked that at least 10 people are expected to be employed at site during the crediting period. 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. As the parameter is subjected to monitoring, the same will be checked during the verification of the project activity. It will ensure that safe working conditions and safety equipment has been provided for all skilled and unskilled Labour. It will be checked during verification through site visit observations and interview with people if noise level is maintained within the 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 that the same is already provided to the workers as part of the company's policy.
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.

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

Principle 5: Financial Additionality & Ongoing Financial Need

As project activity is a CDM Registered project (UNFCCC ID: 4470[18]), and is seeking retroactive registration in the GS CER stream, additionality has been demonstrated by PP in the registered CDM PDD. The registered CDM PDD mentioned that the project would not be economically or financially feasible without the revenue from the sale of carbon revenue. The claim of the project developer has been assessed and validated by the Validation Team and is acceptable.

The Validation Team concludes that the additionality justification regarding the serious CDM consideration given by the project developer is in accordance with the requirements derived from CDM Validation and Verification Standard version 03.0 for the project activity.

[18] https://cdm.unfccc.int/Projects/DB/SIRIM1297157809.18/view

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

The GS4GG PDD of the project activity was checked by the assessment team and found that AMS-I.D. version 18.0 is used which is the latest methodology by UNFCCC. The GS tool kit recommends the application of the latest version of the applied methodology along with the conservative argument of the approach followed. The latest version is AMS-I.D. version 18 and VVB confirm that the project activity is in line with the latest methodology as well.

The formula used in the GS4GG PDD was used for the calculation of emission reduction and the same is found to be correct. Hence emission reduction calculation at this time of validation is conservative and appropriate.

Assessment team checked that Formula used to calculate the net emission reduction for the project activity is

$ER_Y = BE_Y - PE_Y$

Where,

ER_Y = Emission Reduction in tCO_2/year

BE_Y = Baseline emission in tCO_2/year

PE_Y = Project emissions in tCO_2/year

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.

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

Where,

$EG_{PJ,y}$ = Total quantity of net electricity delivered to the recipient facility

$EF_{grid,CM,y}$ = Baseline emission factor

= 0.9225 tCO_2/MWh

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

BE_y = 17,877 MWh * 0.9225 = 16,491 tCO_2/year (round down to nearest integer)

Since $ER_y = BE_y$ (As PE_y=0)

Therefore, ER_y = 16,491 tCO_2/year

SDG 13 Climate Actions

Year	Baseline estimate	Project estimate	Net benefit
07/01/2018 to 06/01/2019	0 tCO_2	17,982 tCO_2	17,982 tCO_2
07/01/2019 to 06/01/2020	0 tCO_2	17,982 tCO_2	17,982 tCO_2
07/01/2020 to 06/01/2021	0 tCO_2	17,982 tCO_2	17,982 tCO_2
07/01/2021 to 07/09/2021	0 tCO_2	12,021 tCO_2	12,021 tCO_2
Total	**0 tCO_2**	**65,967 tCO_2**	**65,967 tCO_2**
Total number of crediting years	4 years		
Annual average over the crediting period	**0 tCO_2**	**16,491 tCO_2**	**16,491 tCO_2**

SDG 7: Affordable and Clean Energy

Year	Baseline estimate	Project estimate	Net benefit
07/01/2018 to 06/01/2019	0 MWh	19,493 MWh	19,493 MWh
07/01/2019 to 06/01/2020	0 MWh	19,493 MWh	19,493 MWh
07/01/2020 to 06/01/2021	0 MWh	19,493 MWh	19,493 MWh
07/01/2021 to 07/09/2021	0 MWh	8,545 MWh	8,545 MWh
Total	**0 MWh**	**71,512 MWh**	**71,512 MWh**
Total no. of crediting years	4 years		
Annual average over the crediting period	**0 MWh**	**17,877 MWh**	**17,877 MWh**

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 intends to provide employment to at least 10 people. PP also intends to provide at least 01 training per year as confirmed during interviews with PP representatives during physical validation audit.

4. REFERENCE

S. No.	Document/Evidence/Reference/Web link, Version, Date
1.	Initial GS4GG PDD, version 01 dated 08/10/2021 GS4GG PDD, version 02 dated 15/03/2022 based on which the final opinion is provided. Final GS4GG PDD, version 03 dated 23/08/2022 based on which the final opinion is provided.
2.	Minutes of Meeting for Local Stakeholders' Consultation
3.	Emission Reduction Sheet for the project activity
4.	Methodology: AMS-I.D. version 18.0
5.	Standard: CDM Project Standard Version 02
6.	Standard: CDM Validation & Verification Standard Version 03
7.	Procedure: CDM Project Cycle Procedure Version 03
8.	Tools: Tool to calculate the emission factor for an electricity system, Version 7.0
9.	GS4GG guideline
10.	Stakeholders consultation process in CDM-PDD
11.	Training Records of project staff at site
12.	Declaration for non-receiving of ODA for project
13.	Universal declaration of Human Rights: http://mha.nic.in/Human_Rights_Division
14.	Ministry of Labour: http://labour.gov.in/upload/uploadfiles/files/footergallery_pdf/List%20ofILO%20Conventions%20Ratified%20by%20India.pdf
15.	National Prevention of Corruption Act of Government of India: http://www.persmin.gov.in/DOPT/EmployeesCorner/Acts_Rules/PCAct/pcact.pdf
16.	Ministry of Environment, Forest & Climate Change: http://moef.nic.in/division/environment-
17.	Minutes of Meeting for Stakeholders' Feedback Meeting
18.	Emails sent to NGO, Stakeholders, villagers for Stakeholder Feedback Round
19.	Commissioning certificates
20.	UNFCCC Website for CDM mechanism: http://cdm.unfccc.int/
21.	HR employment records of the project staff on site
22.	Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects, MNRE Report
23.	Declaration of not participating in REC mechanism
24.	Detailed project report
25.	Copies of EPC Contract
26.	Power Purchase Agreement
27.	Board resolutions
28.	Technical specifications
29.	HR policy and HSE policy of M/s. Rohit Surfactants Pvt. Ltd.
30.	SDG Impact Tool Version 02 Revised SDG Impact Tool Version 03

5. FINAL PROJECT DESIGN CERTIFICATION STATEMENT

Applus+ Certification has performed the validation of "9.6 MW Wind Energy Project at Jamvadi & Navagam & Kalavad, Jamnagar, Gujarat, India of Rohit Surfactants Pvt. Ltd.". The validation was performed on the basis of UNFCCC criteria VVS version 03, 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 fulfilment 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 CO_2 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 16,491 tCO_2e per year.

The SDG Impact tool was also reviewed to determine the contributions of the all the 3 SDG's (SDG 7, SDG 8 and SDG 13) for this project activity.

The validation has been performed following the requirements of the latest version of the CDM VVS version 03, Gold Standard GS4GG guideline and on the basis of the contractual agreement.

In detail the conclusions can be summarized as follows:

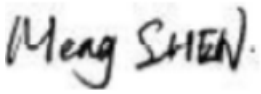
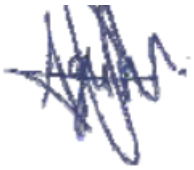
- The project does not result in negative social, environmental and/or economic impacts.
- The project contribution to Environment, Social Development and Economic and technological development
- The project additionality is sufficiently justified in the Gold Standard PDD
- The project does not result in diversion of ODA.
- Conservative assumptions were applied in the project description.
- The monitoring plan of SDG 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: 24/08/2022

Lead Auditor: Mr. Pankaj Kumar
Tech. Expert:
Auditor : Mr. Pankaj Kumar
Tech. Reviewer: Mr. Simon Shen

Approver *(Applus+ Certification VVB Technical Manager)*
Mr. Agustín Calle de Miguel

ASSESSMENT TEAM	
Lead Auditor: PANKAJ KUMAR	**Technical Reviewer:** SIMON SHEN
Signature: 	Signature: 
Approver: Mr. Agustín Calle de Miguel	
Signature: 	

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

Table 1. CAR from this verification

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	01
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	A.1, A.3
Description of the audit finding		Date:	19/11/2021
1. In sec. A.1, name of host country DNA is not correct 2. In sec. A.1.1, its is stated that the project is not registered under any other GHG mechanism which is contradictory as project is registered under CDM also 3. PP shall provide an ER sheet along with a summary of ex ante SDG estimates. Assessment of SDG value reserved till submission of ER sheet 4. Foot note 4 and 6 not working			
Project Participant's response		Date:	15/03/2022
• The name of the host country's DNA has been corrected. • The correction has been made and it is clearly stated that the project is registered under the CDM mechanism also. • The weblink provided to footnote 4 and 6 has been revised and is found to be working.			
Documentation provided as evidence by Project Participant			
Revised GS-PDD version 02			
Auditor's assessment comment		Date:	24/03/2022
1. PP has now updated the name of the host country DNA in Sec. A.1 of the revised GS PDD Version 02 dated 15/03/2022. Hence, **comment closed.** 2. PP has now corrected that the project is also registered under CDM in Sec. A.1.1 of the revised GS PDD Version 02 dated 15/03/2022. Hence, **comment closed.** 3. PP has now provided the ER sheet along with a summary of ex ante SDG estimates. The same is checked by VVB and found appropriate. Hence, **comment closed.** 4. PP has now provided functional weblinks in Sec. A.3 of the revised GS PDD Version 02 dated 15/03/2022. Hence, **comment closed.**			

Type:	☐CAR ☐☒ CL/CR ☐ FAR	Number:	02
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	B.4
Description of the audit finding		Date:	19/11/2021
1. In sec. B.4, PP shall explicitly mention why latest CEA database not used for emission factor and provide comparison of EF of registered CDM PDD and latest CEA database 2. In sec. B.4, Southern grid is mention but project is in the state of Gujarat			
Project Participant's response		Date:	15/03/2022
1. Sec B.4 has been revised and it has been clearly mentioned and the comparison of the latest EF with the EF of registered CDM PDD has been clearly mentioned,			

2. The typographical mistake has been corrected in section B.4 and the sections throughout the revised GS- PDD version 02		
Documentation provided as evidence by Project Participant		
Revised GS-PDD version 02		
Auditor's assessment comment	Date:	24/03/2022
1. PP has now revised the CEA version in Sec. B.4 of the revised GS PDD Version 02 dated 15/03/2022. Hence, **comment closed.** 2. PP has now corrected the grid name in Sec. B.4 of the revised GS PDD Version 02 dated 15/03/2022. Hence, **comment closed.**		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	B.6.1, B.6.2
Description of the audit finding		Date:	19/11/2021
1. The supporting documents to the indicator mentioned relevant to SDGs are missing. Corrective action is sought for the same. 2. As per SDG 8 - Decent Work and Economic Growth: The project leads to Trainings & workshops which are conducted for the O&M staff. However, the supporting documents for: No. of training provided to the employees; Employment generated due to project activity; and the employment records/Salary slips are missing.			
Project Participant's response		Date:	15/03/2022
1. The supporting documents for all the SDG indicators have been provided to the VVB. 2. The training documents, the salary slips and the attendance register is provided to the VVB.			
Documentation provided as evidence by Project Participant			
1. Supporting Share Certificates, Invoices, Salary Slips and training documents. 2. Training documents, salary slips and attendance register.			
Auditor's assessment comment		Date:	24/03/2022
3. PP has now submitted the supporting documents for all the SDG indicators to the VVB. The same is checked by VVB and found appropriate. Hence, **comment closed.** 4. PP has now submitted the supporting documents to demonstrate SDG 8 contribution to the VVB. The same is checked by VVB and found appropriate. Hence, **comment closed.**			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	D.1
Description of the audit finding		Date:	19/11/2021
1. PP shall provide a copy of HR and HSE Policy of the company. 2. Supporting documents related to the Safeguarding principle are not submitted to the assessment team. PP is requested to detail out each supporting submitted for each and every Safeguarding principle.			
Project Participant's response		Date:	15/03/2022
1. Copy of HR policy and HSE policy has been provided to the VVB. 2. The supporting web links related to all the safeguarding principles have been provided in revised GS-PDD version 02.			

Documentation provided as evidence by Project Participant		
Copy of company's HR policy and HSE policy Revised GS-PDD version 02.		
Auditor's assessment comment	Date:	24/03/2022
1. PP has now submitted a copy of the company's HR policy and HSE policy to the VVB. The same is checked by VVB and found appropriate. Hence, **comment closed.** 2. PP has now provided functional weblinks related to all the safeguarding principles in Sec. D.1 of the revised GS PDD Version 02 dated 15/03/2022. Hence, **comment closed.**		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	05
Raised by:	Mr. Pankaj Kumar	Ref. to checklist in GS4GG PDD:	E
Description of the audit finding		Date:	19/11/2021
1. PP shall provide minutes of LSC meeting, attendance sheet, copy of public notice, invitations for LSC meeting conducted. 2. PP shall submit the copy of email circulated for the conduct of SFR.			
Project Participant's response		Date:	15/03/2022
1. PP shall provide minutes of LSC meeting, attendance sheet and copy of public notice has been provided to the VVB. 2. Copy of email circulated for the SFR has been provided to the VVB.			
Documentation provided as evidence by Project Participant			
Stakeholder consultation report			
Auditor's assessment comment		Date:	24/03/2022
1. PP has provided photos, MoM, attendance sheets of LSC meetings at the project site, which were checked and found to be appropriate and consistent with revised PDD. Hence, **comment closed.** 2. PP has now submitted supporting documents related to the SFR conducted. The same is checked by VVB and found appropriate. Hence, **comment closed**.			

Appendix 2: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION

Mr. Pankaj Kumar	**Mr. Pankaj Kumar** has done M. Sc in Environment Management from Forest Research Institute, Dehradun and B. Sc. (Hons.) in Environment & Water Management from Magadh University, Bihar, India. He has also done Post Graduate Diploma in Environmental Law from NLSIU, Bangalore. He has more than 12 years of working experience in GHG Assessments and has participated during his career in Agencies and DOEs like MITCON, Agrinergy, Carbon Check and is empanelled with Applus+ Certification since 2015 for the performance of CDM/VCS/GS project assessments. He has extensive experience in the Renewable, Waste Management and Energy Demand Scopes of UNFCCC CDM and has done more than 100 Validations and Verifications of PAs and PoAs as Lead Auditor, Technical Expert and Technical Reviewer, mainly in Asia, Africa, USA, Asia Pacific and Americas under CDM, Verified Carbon Standard, Gold Standard & Social Carbon Standard, Brazil. He is an experienced, qualified and result oriented Environment and climate change professional having 16 yrs. of relevant experience in Climate Change (Mitigation & Adaptation), Environmental Due Diligence, Disaster Risk Reduction, Climate finance, adaptation planning, capacity building, validation and verification of GHG project. He can also provide technical support for environmental investigative, remedial projects involving air, water and soil, Waste management, EIA, Environmental Compliance, ISO 14001, OHSAS 18001, GHG accounting (ISO 14064) and Carbon foot printing.
Mr. Simon Shen	**Mr. Simon Shen** has Master degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in the environment protection field. Before he joined Applus+ LGAI, he had worked for TUV SUD as a GHG Validator/ Assessment team and ISO 9001/ 14001 Lead Auditors for 3.5 years.