



South Asia

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Gold Standard for Global Goals Validation Report for Renewal of Crediting Period

GS PROJECT NO. GS – 3969

**“100.5 MW WIND POWER PROJECT IN MADHYA
PRADESH, INDIA”**

Report No. 101009SK

02 August 2022

TÜV SÜD South Asia Pvt. Ltd.
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Pune- 411007
INDIA

Title of the project activity	100.5 MW Wind Power Project in Madhya Pradesh, India
GS Reference number of the project activity	GS - 3969
Version number of the validation report	03.0
Completion date of the validation report	02/08/2022
Version number of PDD to which this report applies	3.0
Project participant(s)	Orange Mamatkhedha Wind Private Limited
Host Party	India
Sectoral scope(s)	01: Energy industries (renewable sources)
Methodology (ies)	ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0
Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next crediting period	167,934 tCO ₂ e
Name of DOE	TUV SUD South Asia pvt Ltd (E-0005)
Name, position and signature of the approver of the validation report	 Eswar Murty Senior Manager, Certification Body, TÜV SÜD South Asia

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1 METHODOLOGY

2 Objective

TÜV SÜD has been commissioned by the aforementioned client “ Orange Mamatkhedha Wind Private Limited” to perform an independent validation assessment. The objective of the Validation is to have an independent evaluation of the update PDD’s compliance with relevant UNFCCC and GS requirements and host Party criteria to confirm that the original project baseline is still valid or has been updated taking into account of new data where applicable. In particular, the project’s baseline, monitoring plan and the project’s compliance with relevant UNFCCC requirements and host Party criteria are validated in order to confirm the correctness of the application of the approved baseline methodologies for the determination of the continued validity of the baseline/or its update, and estimation of the emission reductions for the applicable crediting period. The validation scope is to review the updated PDD against the UNFCCC criteria for CDM. UNFCCC criteria for CDM refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures, the simplified modalities and procedures for small-scale CDM project activities and the subsequent decisions by the CDM Executive Board. The validation scope also involves to review the updated GS-PDD against the Gold Standard, GS4GG requirements.

3 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of GS project activities, the scope is set by:

- GS 4 GG requirements
- Clean Development Mechanism Validation And Validation Standard (VVS) for Project Activities v3.0
- Baselines and monitoring methodologies (including GHG inventories)
- Environmental issues relevant to the applicable sectoral scope
- Applicable environmental and social impacts and aspects of GS project activity
- Current technical and operational knowledge of the specific sectoral scope and information on best practice
- Stakeholder consultation and feedback

The validation process is not meant to provide any form of consulting for the project participant (PP). However, stated requests for clarifications, corrective actions, and/or forward actions may provide input for improvement of the project design.

Once TÜV SÜD receives the PD, it is made available on the GS Registry through a dedicated interface on the Gold standard website. The Validation shall commence only after the project documents are listed on the registry.

4 Validation Process

The information provided by the project participants is assessed by applying the means of validation specified in the GS4GG, Toolkit and the VVS.

A competent assessment team is selected prior to the start of the validation. The team is selected to cover the technical area(s), sectoral scope(s) and relevant host country experience for evaluating the GS project activity. Additionally, a competent Technical Reviewer or Technical Reviewer Team is appointed to conduct checks on quality and completeness.

The validation team performs first a desk review, followed by an remote-site visit, which results in the formation of a draft report and a list of findings. The next step involves the evaluation of the findings through direct communication with the PPs and then finally the preparation of the validation report. This validation report and other supporting documents then undergo an internal quality control by the CB “Environment and energy” before submission to the GS.

5 Appointment of the Team

According to the technical scopes and experiences in the sectoral or national business environment, TÜV SÜD has composed an assessment team in accordance with the appointment rules of the TÜV SÜD Certification Body “Environment and Energy”.

The composition of an assessment team has to be approved by the Certification Body (CB) to assure that the required skills are covered by the team. The CB of TÜV SÜD operates the following qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL); Shailendra Kewat
- Verifier (V); Shailendra Kewat
- Technical Experts (TE); Shailendra Kewat
- Country expert (CE); Shailendra Kewat
- Technical reviewer (TR): Eswar Murty

It is required that the sectoral scope(s) and the technical area(s) (TA) linked to the methodology/ies and project has to be covered by the assessment team. Appointment certificates of the selected team members are attached to this report as Annex.

Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader , Validator/Technical Expert/ Host country Expert	EI	Kewat	Shailendra	TÜV SÜD South Asia Private Limited (TÜV SÜD)	√	-	√	√

Technical reviewer and approver of the validation and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Murty	Eswar	TÜV SÜD South Asia Private Limited (TÜV SÜD)

2	Approver	IR	Murty	Eswar	TÜV SÜD South Asia Private Limited (TÜV SÜD)
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6 Review of Documents

Based on the initial submitted GS-PD, the assessment team performed a desk review to:

- verify the completeness of the data and the information presented in the GS-PD.
- check the validity of the baseline with respect to the current national /sectoral policies , ongoing financial additionality , applicability of the methodology and sustainable development indicators.
- evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

A complete list of all documents reviewed is available in the Information Reference List attached as Annex 2 to this report.

7 On-site Assessment and follow-up Interviews

The Verification team could not conduct the site visit due to COVID-19 pandemic and subsequent travel restrictions. However, a remote audit was conducted and the personal interviewed are discussed in section C.3.

CDM-EB Guidance	Justification by DOE
If the site visits cannot be postponed, a proper justification should be provided by the DOE why the site visits cannot be postponed, including the demonstration of a significant impact of delaying the site visits on the DOE, or project participants or coordinating/ managing entity (e.g. commitment/ timeline as per the validation or verification contract, CER delivery commitment by project participants) reliance on applicable force majeure provisions in the validation or verification contracts, if needed.	Project has already been crossed the end date of crediting period. According to GS Principles and Requirements Version 1.2, par 5.1.46 delay in the completion of re-validation beyond the last date of current certification cycle shall result in a reduction of any issuance of Certified Product and/or Impact Statements available during following certification cycle". Therefore, site visit could not be postponed to avoid any delay in GS RCP and further reductions in GS CER. Based on the above-mentioned justifications, the DOE could not postpone the remote site audit. The same is also as per clause 4 of GS-COVID-19: Interim measures , dated 06/04/2020

If the site visit cannot be postponed but are not conducted due to the COVID-19 pandemic, the DOE may use other standard auditing techniques for validation or verification, as referred to in sections 7.1.3 and 9.1.3 of the VVS-PA and sections 7.1.3 and 10.1.3 of the VVS-PoA. In the above regard, the Board agrees to allow for three months, from 23 March to 23 June 2020, to deviate from the requirements in paragraphs 30 and 339 of the VVS-PA and paragraphs 183 and 321 of the VVS-POA. Where the DOE relies on this temporary measure, it shall describe in the validation/ verification report the alternative means used and justify that they are credible and sufficient for the purpose of validation or verification.	The DOE has used other standard auditing techniques for verification, as referred to in section 9.1.3 of the CDM VVS-PA v3.0. All information provided in the revised PDD was verified during the desk-review phase against credible sources and interviews with concerned stakeholders. Since an onsite inspection is avoided, the validation team decided to carry out the audit by other means of standard auditing techniques, which included video conference calls, videos of the site, videos of the equipment's installed and measuring devices in place, pictures of the meters, emails, raw data and telephonic interviews. The same is in line with p.340 of VVS for PA v 3.0.
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Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Raju M	Murali Krishnam	Project Manager	07/03/2022	Project implementation/ operation/ monitoring Equipment installed , measurement, calibration , necessary licences and approvals, QA/QC procedures and SDG indicators	Shailendra Kewat
2.	Soni	Rahul	Local Villager			
3.	Raj	Mohit	Local Villager			
2.	Prakash	Rahul	Project In-charge			
3	Joshi	Akash	Consultant		PDD CERs calculation Methodology applicability Monitoring, QA/QC procedures	

8 Resolution of Clarification and Corrective and Forward Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions, clarifications, and any other outstanding issues which need to be clarified for TÜV SÜD's conclusion on the

achieved emission reductions. 01 CARs, 03 CR and no FARs were raised during the course of validation. All the CARs and CRs raised by TÜV SÜD are resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are documented in detail in the List of Findings that is attached as Annex 1 to this report.

9 Internal Quality Control

Internal quality control within the team is assured by means of a technical review process that takes place after the remote-site assessment and after closure of findings. The internal quality control in the validation process is given by the final decision (Validation and Certification Conclusion) made by the CB “Environment and Energy”.

10 CARBON VALIDATION AND REPORTING

In the following sections, the results of the validation are stated. The validation results relate to the project performance as documented and described in the final PDD and final Monitoring Report. The validation findings for each validation subject are presented below.

11 FARs from Validation / Previous Validation

No FARs raised.

12 CLs, CARs and FARs raised

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form			
Application and selection of methodologies and standardized baselines	1		
Validity of original baseline or its update			
Financial check			
Estimated emission reductions or net anthropogenic removals	1	1	
Validity of monitoring plan			
Crediting period	1		
Project participants			
Sustainability opinion			
Others (please specify)			
Total	3	1	-

13 Compliance with PDD form

The validation team verified that for the renewal crediting period, information transferred to the later valid version of the PDD form is materially the same as that in the registered PDD and the sections of the PDD relating to the baseline, estimated GHG emission reductions, monitoring plan and crediting period and GS4GG requirements have been updated in accordance to the Gold Standard for the global goals principles & requirements, version 1.2 of 23/10/2019 .

14 Application and selection of methodologies and standardized baselines

Means of validation	The project was originally registered based the methodology “ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0 , as available in the registered PDD and as verified by means of documents, videos of site and interviews with project proponent, the spatial extent of the project at the Bagiya, Kanser, Mawta, Nandwell, Ranigaon, Thikriya, Bhandariya, Bhepur, Chandakhedi, Dehari, Dhandhoda, Garoda, Karju and Sagwali, villages of Ratlam & Mandsaur districts of Madhya Pradesh state and power plants connected physically to the national electricity grid to which the registered project is also connected. The project activity is installation of a new grid connected renewable resource (Wind) based power plant. In the absence of the project “the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid”. <table border="1"> <thead> <tr> <th data-bbox="502 795 997 952">Grid-connected electricity generation from renewable sources applicability conditions</th><th data-bbox="997 795 1492 952">Conclusion made by validation team</th></tr> </thead> <tbody> <tr> <td data-bbox="502 952 997 1624"> 1. This methodology is applicable to grid-connected renewable energy power generation project activities that: • Install a Greenfield power plant; • Involve a capacity addition to (an) existing plant(s); • Involve a retrofit of (an) existing operating plants/units; • Involve a rehabilitation of (an) existing plant(s)/unit(s); or • Involve a replacement of (an) existing plant(s)/unit(s). </td><td data-bbox="997 952 1492 1624"> 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. </td></tr> <tr> <td data-bbox="502 1624 997 2060"> The methodology is applicable under the following conditions: (a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power </td><td data-bbox="997 1624 1492 2060"> The project activity is an installation of a new grid connected wind power plant/ unit and hence criteria under point (a) is met. The project does not involve any capacity additions, retrofits or replacements and therefore this </td></tr> </tbody> </table>	Grid-connected electricity generation from renewable sources applicability conditions	Conclusion made by validation team	1. This methodology is applicable to grid-connected renewable energy power generation project activities that: • Install a Greenfield power plant; • Involve a capacity addition to (an) existing plant(s); • Involve a retrofit of (an) existing operating plants/units; • Involve a rehabilitation of (an) existing plant(s)/unit(s); or • Involve a replacement of (an) existing plant(s)/unit(s).	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.	The methodology is applicable under the following conditions: (a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power	The project activity is an installation of a new grid connected wind power plant/ unit and hence criteria under point (a) is met. The project does not involve any capacity additions, retrofits or replacements and therefore this
Grid-connected electricity generation from renewable sources applicability conditions	Conclusion made by validation team						
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The methodology is applicable under the following conditions: (a) The project activity may include renewable energy power plant/unit of one of the following types: hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power	The project activity is an installation of a new grid connected wind power plant/ unit and hence criteria under point (a) is met. The project does not involve any capacity additions, retrofits or replacements and therefore this						

	plant/unit, wave power plant/unit or tidal power plant/unit; (b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects) the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity	criteria under point (b) is not applicable.
	In case of hydro power plants, one of the following conditions shall apply: 1 (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density, calculated using equation (7), is greater than 4 W/m² ; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m² ; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (7), is lower than or equal to 4 W/m² , all	The 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.

	of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m² ; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² shall be: a. Lower than or equal to 15 MW; and b. Less than 10 per cent of the total installed capacity of integrated hydro power project.	
	4. In the case of integrated hydro power projects, project proponent shall: (a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or (b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific sce-	The 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.

	nario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum of five years prior to the implementation of the CDM project activity	
	The methodology is not applicable to: (a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; (b) Biomass fired power plants/units.	
	6. Combined heat and power (co- generation) systems are not eligible under this category.	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.
	In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, that is to use the power generation equipment that was already in	

	use prior to the implementation of the project activity and undertaking business as usual maintenance”.	
Conclusion	TUV SUD confirms that the selected baseline and monitoring methodologies have been previously approved by the CDM Executive Board and are applicable to the project, which complies with all the applicability conditions therein the selected versions are valid at the time of submission of the renewal of crediting period.	

15 Validity of Original baseline and updates

Means of validation	The baseline was assessed according to the tool “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, version 03.0.1” /07/. The following steps were assessed: Step 1: Asses the validity of the current baseline for the next crediting period. Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies. The project activity is installation of a new grid connected renewable resource (Wind) based power plant, the identified baseline as per the methodology is “the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid”. Therefore, in accordance with the above, the baseline for the project activity is continuation of the pre-project scenario wherein the equivalent amount of electricity as generated by the project activity shall be generated at the thermal dominated grid connected power plants resulting in CO₂e emissions. The same is line with all national policies and there is no policies or regulations which mandates the project participant to implement the project activity. TUV SUD verified through the assessment of the Annexure 3 of the EB 22 states that national and/or sectoral policies and circumstances have to be accounted for when considering the baseline. Para 7(a) states that, only those national and/or sectoral policies or regulations under paragraph 6(a) i.e. type E+ policy that increase GHG emissions, that have been implemented before adoption of the Kyoto Protocol by the COP (decision 1/CP.3, 11 December 1997), shall be taken into account when developing a baseline scenario. The Electricity Act of 2003 promoted cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity (Refer Section 86(1) of Electricity Act 2003). Therefore, it could be seen that the provincial and sectoral policies are E- i.e., policies that decrease GHG emissions which is after November 2001. Hence the baseline scenario is the electricity generation by grid connected fossil fuel
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dominated power plants confirming to Annex 3 of EB 22. Also, PP has provided the PPA to demonstrate the project activity is in compliance with national sectoral policies. It is also confirmed that current relevant law and regulations does not mandate setting up renewable power plants from existing capacity.

Step 1.2: Assess the impact of circumstances

TUVSUD verified that there are no new relevant national and/or sectoral policies and/or circumstances that affect the baseline scenario; therefore, there is no impact in the project activity and baseline scenario. TUVSUD verified that the Indian Grid is primarily fed by fossil fuel based power plants.

Step 1.3: Assess whether the continuation of the use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which the renewal is requested

As per the assessment of Step 1.1, the project proponent would have used the current baseline in absence of the project implementation as there is no requirements enforce change or modification of the current baselines. Hence it is verified that continuation of the use of current baseline equipment(s) is the most likely scenario for the crediting period for which the renewal is requested. It is further checked that the baseline equipments can still be operational for the next 15 years. The same was also confirmed and assessed in the first validation.

Step 1.4: Assessment of the validity of the data and parameters

The baseline emissions of the project activity were updated considering the latest version of the "Tool to calculate the emission factor for an electricity system" version 07. As per the registered PDD, the grid emission factor was calculated as the weighted average of OM & BM; and was fixed ex-ante for the entire crediting period. Since the emission factors that were determined at the start of the first crediting period are not valid anymore, the data and parameters have been updated for the second crediting period.

Step 2: Update the current baseline and the data and parameters **2.1: Update the current baseline**

Step 2.1: Update the current baseline

The baseline emissions for the second crediting period have been updated, without reassessing the baseline scenario, based on the latest approved version of the methodology Grid-connected electricity generation from renewable sources Version 20.0.

Step 2.2: Update the data and parameters

The data and/or parameter(s) related to the grid emission factor for the second crediting period were updated. The PP adopts the ex-ante calculation

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	of emission factors of the grid and the combined margin emission factor for national grid of India has been calculated as 0.9305 tCO₂/MWh. It has been calculated based on the data provided by CEA sourced data with 3 years vintage data and option of ex ante calculation based on 75% of OM and 25% of BM values approach. This state body has provided the grid emission factor using the ‘Tool to calculate the emission factor for an electricity system, version 07.0. This data is the latest publicly available data at the time of validation of renewal of crediting period. The emission factors are as follows: <table><tr><th>Parameter</th><th>Value</th><th>Source</th></tr><tr><td>EFOM,y : Operating Margin Emission Factor (tCO₂/MWh)</td><td>0.9522 tCO₂/MWh</td><td rowspan="3">“CO₂ Baseline Database for Indian Power Sector” version 17.0, published by the Central Electricity Authority, Ministry of Power, Government of India.</td></tr><tr><td>EFBM,y : Build Margin Emission Factor (tCO₂/MWh)</td><td>0.8653 tCO₂/MWh</td></tr><tr><td>EFCM,y : Combined Margin Emission Factor (tCO₂/MWh)</td><td>0.9305 tCO₂/MWh</td></tr></table> According to the Version 07.0 of “Tool to calculate the emission factor for an electricity system”, the following default values are used in wind power generation project activities for the second crediting period and for subsequent crediting periods: $w_{OM} = 0.75 \text{ and } w_{BM} = 0.25$ So in the renewal crediting period, the CM emissions factor is derived as follows: $EF_{grid,CM,y} = 0.75 \times 0.9522 + 0.25 \times 0.8653 = 0.9305 \text{ tCO}_2/\text{MWh}$ Since the emission factors have been sourced from the data published by government authority, hence it has been accepted by the validation team.	Parameter	Value	Source	EFOM,y : Operating Margin Emission Factor (tCO ₂ /MWh)	0.9522 tCO ₂ /MWh	“CO ₂ Baseline Database for Indian Power Sector” version 17.0, published by the Central Electricity Authority, Ministry of Power, Government of India.	EFBM,y : Build Margin Emission Factor (tCO ₂ /MWh)	0.8653 tCO ₂ /MWh	EFCM,y : Combined Margin Emission Factor (tCO ₂ /MWh)	0.9305 tCO ₂ /MWh
Parameter	Value	Source									
EFOM,y : Operating Margin Emission Factor (tCO ₂ /MWh)	0.9522 tCO ₂ /MWh	“CO ₂ Baseline Database for Indian Power Sector” version 17.0, published by the Central Electricity Authority, Ministry of Power, Government of India.									
EFBM,y : Build Margin Emission Factor (tCO ₂ /MWh)	0.8653 tCO ₂ /MWh										
EFCM,y : Combined Margin Emission Factor (tCO ₂ /MWh)	0.9305 tCO ₂ /MWh										
Findings	No CAR/CL has been raised										
Conclusion	TUV SUD verified that the baseline was assessed according to the tool “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, version 03.0.1”. The current project baseline is still valid at the renewal crediting period. The validation team confirms that the same is as per para 404 of the CDM VVS for project activities , version 03.0.										

16 Financial check

Means of validation	The additionality of the project activity has been demonstrated in-line with “Tool for the demonstration and assessment of additionality”, Version 07.0. All steps of the additionality tool have been demonstrated in the PDD and validation report. DOE checked the additionality in PDD and IRR sheet and found the same to be correct and appropriate.
Findings	No CAR/CL has been raised

Conclusion	TUV SUD verified that the additionality was assessed according to the tool Tool for the demonstration and assessment of additionality". The current project additionality is still valid at the renewal crediting period. The validation team confirms that the same is as per para 405 of the CDM VVS for project activities , version 03.0.	
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17 Estimated emission reductions or net anthropogenic removals

Means of validation	The baseline emissions will include emissions that would have occurred in the absence of the project activity. The emission reduction calculation has been done as per the methodology ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0. Baseline Emission (BE_y) $BE_y = EG_{PJ, y} \times EF_{grid, CM, y}$ Where BE_y = Baseline Emissions in year y (tCO₂) EG_{PJ, y} = Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh) EF_{grid, CM, y} = Grid emission factor (MWh/tCO₂) PP has estimated the baseline energy generation considering the capacity of the project activity, yearly generation hour and plant load factor. Baseline emission factor is calculated as combined margin, consisting of a combination of operating margin (OM) and build margin (BM) factors according to the procedure prescribed in the "Tool to calculate the emission factor for an electricity system" version 7.0 The baseline emission factor calculation and estimation of EG_{PJ, y} is checked by the validation team and found that the calculation is transparent and conservative /09/. Baseline emission calculated as below: BE_y = EG_{PJ, y} x EF_{grid, CM, y} $BE_y = 180,478 \text{ MWh} \times 0.9305 \text{ tCO}_2\text{e/MWh}$ $= 167,934 \text{ tCO}_2\text{e}$ Project Emission (PE_y) As per applied methodology only emission associated with the fossil fuel combustion, emission from operation of geothermal power plants due to	
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	release of non-condensable gases, emission from water reservoir of hydro should be accounted for the project emission. Since the project is a windpower project, PE_y = 0 (tCO₂/year) Emission Reductions (ER_y) The project activity reduces carbon dioxide emissions through displacement of grid electricity generation with predominantly fossil fuel based power plants. The emission reduction (ER_y) due to project activity during a given year y is calculated as the difference between baseline emissions (BE_y), project emissions (PE_y) and emissions due to, as per the formulae given below: ER_y = BE_y – PE_y Where, • BE_y = Baseline emissions in the year y in tCO₂e • PE_y = Project emissions in the year y Here, PE_y = 0 for the project activity as per the methodology. Leakage is also zero according to the ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0 Therefore, ER_y = BE_y The total emission reductions are 167,934 tCO₂e/yr
Findings	No CAR/CL has been raised
Conclusion	It is TUV SUD's opinion: (a) All assumptions and data used by the PP are listed in the PDD; (b) All documentation used by the PP as the basis for assumption and source of data is correctly quoted and interpreted in the PDD . (c) All values used in the PDD and CERs spreadsheet. Including GWPs are considered reasonable in the context for the registered project activity (d) The baseline methodology and methodological tools have been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions; All estimates of the baseline and project emissions can be replicated using the data and parameters values provided in the PDD and CERs spreadsheet.

18 Validity of monitoring plan

Means of validation	The project activity has applied approved monitoring methodology ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0. The project activity is Wind energy-based grid connected Greenfield power plant with a total installed capacity of 100.5 MW, applied monitoring methodology requires the monitoring of net generation
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electricity supplied to grid by the project plant. The net generation electricity supplied to grid shall be cross checked with joint generation sheet signed by the representatives of electricity board and the project owner and the respective invoices.

Further, the monitoring methodology requires calibration of monitoring equipment as per national/local standard applicable and monitored data must be archived in electronic format for two years after the end of the last crediting period.

The PDD has described the monitoring plan in a clear and transparent manner, which is in compliance with applied approved monitoring methodology ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0 The validation team has validated each parameter required to be monitored as per applied monitoring methodology and is of the opinion that the proposed monitoring plan in PDD is feasible to implement and will result credible emission reductions resulted due to the project activity.

Parameters monitored ex-post

The project emission and leakage are considered zero, as the project activity is a new wind energy-based power project and does not involve transfer of energy generating equipment, which is in conformity with the applied approved monitoring methodology ACM0002: Grid-connected electricity generation from renewable sources - Version 20.0.

The following parameters will be monitored ex-post:

EG_{BL,y} : Net electricity supplied to the national grid by the Wind plant in MWh/yr.

SDG 7.2.1	According to the PDD , the electricity supplied by the project to the grid and consumed from the grid is continuously measured by a pair of bi-directional main and check meters, which are used in billing. The monthly readings are jointly recorded by the Electricity board representatives and project owner, which can be cross checked with the invoices. In case the main meter fails, the check meters are used for billing. It is mentioned that the accuracy class of main and check meters would be 0.2s The same was also confirmed from the verification report . It is also confirmed that the meters will be calibrated as per the requirements to
Access to affordable and clean energy services	

		national standard. Calibration of all the meters shall be done once in three years ¹ .
	SDG 8.5.1 -Quality of employment - Quantitative employment and income generation. - Equal pay for work of equal value for both men and women	The validation team checked the records of technical trainings along with the health and safety trainings . The validation team also checked the list of participants attended the training. During the interviews with the PP it was clarified that the PP has to follow the safety standards set by the Electricity board . .
	SDG 13- Climate action Annual emission reductions	The value of 167,934 tCO ₂ e estimated ex-ante is checked with the ER spread sheets . More information on the same is provided in section 2.7. The expost emission reductions can be checked during the verification of each monitoring period
Findings	CL 1 PP is requested to provide the training records provided to the employees CL1 is closed. For more information, please refer to Annex-1 of the report.	
Conclusion	It is TUV SUD's opinion that the monitoring plan is in accordance with the monitoring methodology; the monitoring plan will give opportunity for real measurement of achieved emission reductions. TUV SUD has checked all the parameters presented in the monitoring plan against the requirements of the methodology and methodological tools; no deviations relevant to the project activity have been found in the plan. TUV SUD confirms that the monitoring arrangements described in the monitoring plan, including the data management and quality assurance and quality control procedures, are feasible within the project design, and the means of implementation of the monitoring plan are sufficient to ensure the emission reductions achieved by/resulting from the registered CDM project activity can be reported ex post and verified. The validation team confirms that the same is as per para 412(a) of the CDM VVS for project activities , version 03.0.	

19 Crediting period

Means of validation	The second crediting period starts from 01/01/2022 – 31/12/2026. This is noted to be in line with the end of the first crediting period. However, As per the section 5.1.46 of GS principle and requirements version 1.2, it is confirmed that the PP will not claim the emission reductions for the period, when
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¹ This is conservative when compared to the Central Electricity Authority (Installation & Operation Meters) Regulations, 2006 that require calibration of meters once every five years.

	there was a delay and the monitoring will start only from the day the project is deemed renewed.
Findings	Please refer to Annex-1 of the report.
Conclusion	TUV SUD confirms that as per the section 5.1.46 of GS principle and requirements version 1.2 , it is confirmed that the PP will not claim the emission reductions for the period, when there was a delay and the monitoring will start only from the day the project is deemed renewed. The same is accepted as per GS4GG requirements.

20 Project participants

Means of validation	The project participants described in the PDD is Orange Mamatkheda Wind Private Limited, which is consistent with the project page available in GS4GG website, Hence accepted.
Findings	Please see annex-1 for the details
Conclusion	TUV SUD verified that the project participants included in the PDD are consistent with the names of the project participants in the project view page.

21 SUSTAINABILITY VALIDATION

22 Assessment of SDG outcomes

Assessment of SDG outcomes are discussed in section 2.8 above.

The Safeguarding principles assessment is as below:

Assessment Questions / Requirements	Justification of Relevance (Yes / potentially / no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)
Principle 1. Human Rights			
1. The Project Developer and the Project shall respect international-	Yes	1. The Project is not in conflict with the economic livelihood or other issue of the local community. Thus, the Project does not cause any human rights abuse and respects internationally proclaimed human rights issue.	Not Required

ally pro-claimed 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		Project proponent had conducted stakeholder's consultation and sought their opinion. 2. Project activities are not expected to cause any human rights abuse. As a member of United Nations² and part of UN Agreement on Human Rights³, it is ensured by law in India that no action can be taken against human rights. The project will not employ any personnel based on gender, race, religion, sexual orientation or any other basis. As the Constitution of the host country prohibits discrimination on the basis of a person's race, sex, religion, place of birth, or social status. The host country has signed the Convention 100 (equal remuneration) and convention 111 (discrimination in employment /occupation) under the ILO Declaration on Fundamental Principles and rights⁴	
Principle 2. Gender Equality			
1. The Project shall not directly or indirectly lead to/contribute to	Yes	1. The Project do not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women. For this project, every employee is treated with respect and afforded equitable treatment. The	HR policy which includes the Gender Sensitization Policy

² <https://labour.gov.in/lcandilasdivision/india-ilo>

³ <https://www.ilo.org/newdelhi/lang--en/index.htm>

⁴ <http://www.mfcindia.org/main/bgpapers/bgpapers2013/am/bgpap2013c.pdf>

adverse impacts on gender equality and/or the situation of women 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 4. (where required) Summary of opinions and		grievance register has maintained at site to take stakeholder feedback. There is no any sexual harassment and/or any forms of violence against women. The project does not involve any slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls. The project does not restrict of women's rights or access to resources. The project recognizes women's ownership rights regardless of marital status. 2. Projects has applied the principles of non-discrimination, equal treatment, and equal pay for equal work. The project has equal opportunity for both men and women. Orange Mamatkhedha Wind Private Limited (OMWPL) is committed to maintaining an environment where all women, enjoy a safe, friendly and supportive working environment, free of harassment and exploitation. OMWPL Group is committed to providing work environment that enables employees to work without fear, prejudice, gender bias and sexual harassment and ensures that every employee is treated with dignity and respect and afforded equitable treatment. The Company will not tolerate any form of sexual harassment and is committed to take all necessary steps to ensure that its employees are not subjected to any form of harassment. The same is mentioned in the Gender Sensitization	
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recom- menda- tions of an Expert Stake- holder(s)		Policy in the company's Employee Handbook. Thus, the project does not involve and is not complicit in any form of discrimination based on gender difference. The project ensures participation of both men and women and they are benefitted based on pregnancy, maternity/paternity leave, or marital status. 3. India ratified the International Convention on the Elimination of All Forms of Racial Discrimination⁵ on 03/12/1968 with certain reservation. The project activity is in line with strategy of elimination of discrimination.	
Principle 3. Community Health, Safety and Working Conditions			
1. The Pro- ject shall avoid commu- nity ex- posure to increased health risks and shall not adversely affect the health of the workers and the commu- nity	Yes	a. The project proponent is committed to the employee's workplace health & safety during all phases of the project. The Company strives to provide a safe, healthy, clean and ergonomic working environment for its staff. The safety and security of the staff in the workplace is a primary concern of the Company. The Employee Handbook of the project can be checked for the same. This is also issued in the Labor code on Occupational Safety, Health and Working Conditions and UN Agreement on Human Rights⁶.	Workplace Health & Safety trainings will be conducted regularly during the project operation.
Principle 4.1 Sites of Cultural and Historical Heritage			
Does the Pro- ject Area in- clude sites,	No	No cultural heritage is observed on the	Not Required

⁵ https://nhrc.nic.in/documents/india_ratification_status.pdf

⁶ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?		project site, thus no harm observed. The site below gives the list of cultural heritage sites in India by UNESCO from which it is clear that the project site does not form a cultural heritage site. Source: http://whc.unesco.org/en/states-parties/in	
>>		Law on Cultural heritage is protected against alteration, damage or removal by the “law on cultural heritage ⁷ ”.	

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 sites are developed on leased land for 25 years i.e., the project lifetime. The Company had received the final Possession Orders (FPO) (issued by the state government) for land locations. Ground cover on site consists largely of open agricultural land. There is no physical or economic relocation of peoples (temporary or permanent, full or partial).	Not required
>>			

Principle 4.3 Land Tenure and Other Rights

a.Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage	Yes	There are no uncertainties regarding land tenure, access rights, usage rights or land ownership. The Project sites are developed on leased land for 25 years i.e., the project lifetime and all of them belongs to PP now. Moreover, the project is not located with close proximity of any forest.	Not required
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⁷ <https://cpwd.gov.in/Publication/ConservationHertBuildings.pdf>

rights or land ownership?			
b. For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership?			
>>			
>>			

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 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. PP does not involve and is not complicit in any kind of corruption. India has ratified UN convention against Corruption in 2011 ⁸	Not Required
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Principle 6.1 Labour Rights

1. The Project Developer	Yes	1. The project proponent is committed to the employee's workplace health & safety during all phases of the project.	Not required
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⁸ https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XVIII-14&chapter=18&clang=_en#EndDec

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 3. Working agreements with all individual workers shall be		All employees will attend health & safety trainings. This is issued in the Labor code on Occupational Safety, Health and Working Conditions and UN Agreement on Human Rights⁹ 2. The project respects fundamental right of employee. There is law in India since 1926 by The Trade Unions Act, 1926¹⁰ which protects rights of industrial trade unions and their members. PP and appointed contractors will not involve in any form of forced or compulsory labor. India has ratified ILO “C029 – Forced Labor Convention”¹¹ 3. The Company strives to provide a safe, healthy, clean and ergonomic working environment for its staff. The safety and security of the staff in the workplace is a primary concern of the Company. OMWPL respects and supports the dignity, well-being and human rights of all the staff. It encourages all staff to maintain a work life balance by providing facilities such as 3 Short Leaves in a month, late coming twice a month, work from home facility with the consent of the supervisor. The section ‘Attendance Policy’ of the Employee Handbook of the company can be checked. 4. PP and their subcontractors complying with all relevant national laws regarding child labor. PP will not employ children in any shape or form for their works. India has ratified ILO	
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⁹ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

¹⁰ <http://ncw.nic.in/acts/TheTradeUnionsAct1926.pdf>

¹¹ https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102691

docu- mented and im- ple- mented and in- clude: a) Working hours (must not ex- ceed 48 hours per week on a regular basis), AND b) Duties and tasks, AND c) Remu- nera- tion (must include provi- sion for pay- ment of over- time), AND d) Modali- ties on health insur- ance, AND		“C138 – Minimum Age Conven- tions” and “C182 – Worst Forms of Child Labor Convention¹²”. OM- WPL does not use any forced la- bor, child labor, bonded labor or any other forms of involuntary labor. Record of Age in the Employee Handbook of the company can be checked. 5. The project owner is commit- ted to the safe and healthy working condi- tions all phases of the project. Development of employees is one of the prime objectives of the company. Training opportunities for enhancing professional development will be provided as and when needed, by OMWPL All employees will attend trainings health & safety. This issue is pro- tected by Labor code¹³ and UN Agreement on Human Rights¹⁴.	
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¹² https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102691

¹³ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

¹⁴ <https://www.ohchr.org/EN/Countries/AsiaRegion/Pages/INIndex.aspx>

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)			
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5.	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		
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Principle 6.2 Negative Economic Consequences

1.	Does the project cause negative economic consequences during and after project implementation?	No	The project activity is a renewable wind power generation project and generates various employment opportunity for the locals throughout its lifetime. Thus, there is no negative economic consequences during and after project implementation.
>>			

Principle 7.1 Emissions

Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	a. The project reduces Greenhouse Gas (GHG) emissions and fossil fuel usage compared to 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	No. The project activity is a grid connected renewable energy based wind power generation project. There is no use of Wood or Biomass in the project activity. On the contrary the project generates renewable energy and supplies to the grid. Hence, it's not required to be monitored.	Not Required
>>			

Principle 8.1 Impact on Natural Water Patterns/Flows

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 connectivity or water scarcity?	No	The project being a wind power project thus there is no impact of water resources. The plant area does not have large rivers and streams, only small gaps flow. In the dry season, there is almost no water, only water in the rainy season.	Not Required
>>			

Principle 8.2 Erosion and/or Water Body Instability

a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? b. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	No. The risk of erosion is unlikely by the project. Conservation of top soil has been taken into account right from the construction period by development of a temporary drainage system is constructed along the same alignment for construction of permanent drainage system to prevent rainwater from washing out soil and sediment into adjacent area. Rainwater falling in the project area is collected before being drained into the project's rainwater drainage system and further drained into natural waterways.	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 is established at the largely of open agricultural land which was not used for production of crops and other products for a long time.	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	No	The project is susceptible to decreased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme conditions.	Not Required

other extreme climatic conditions?			
>>			
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 wind plant does not affect the herbal life.	Not Required
>>			
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	Being a wind power project activity, it falls under the list of White category projects declared by Central Pollution Control Board of India, Govt of India.	Not Required
>>		This means project activity does not potentially results in release of pollutants to the environment. Nevertheless, the project takes a precautionary approach regarding environmental challenges and is not complicit in practices contrary to the precautionary principle.	

		The environment is protected by several Laws and Regulations in India. The purpose of the “Law on Environmental Protection” is to protect the environment with principles of sustainable development and environment. The project owner also follows necessary procedures for environmental safety at the project.	
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?	Yes	All hazardous and non-hazardous wastes will be disposed as per the local regulations. Hazardous wastes such as fluorescent lamp, battery, dry-cell battery, and electric weir being generated from office's equipment will be minimized and some can reduce for example; selection of using the discharge battery. Thus, the project owner follows necessary procedures for environmental	Not Required
>>			
Principle 9.6 Pesticides & Fertilisers			
Will the Project involve the application of pesticides and/or fertilisers?	No	Not applicable for wind power plants.	Not Required
>>			
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	No, the project does not involve harvesting of forest. The Project sites are developed on leased land for 25 years under the lease agreement for the project lifetime only. Moreover, the project is not located with close proximity of any forest. The detailed project study report clearly reveals that project activity does not involve harvesting of forest.	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	No. The project does not modify the quantity or nutritional quality of food available.	Not Required
>>			
Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry?	No	No. Not applicable for wind project	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	No, the land of the Project is not located in sensitive ecological zones, biodiversity conservation areas, and there are no rare and valuable plant and animal species. Through engineering measures and greening measures, the condition of ground vegetation will be gradually improved; No rare species has been found in the around area. Also, Ramsar Sites of India, 2020 can also be checked, there is only one location in Gujarat state There are no endangered species identified as potentially being present within the Project boundary. Same was confirmed from the site survey, it was found that the landscape in study area is farmland and degradation land where no forest area found. Further, the project site is more	Not Required
>>			

		than 500 kms away from Gir National Park and more than 100 kms far from the Manund Forest Area. Therefore, there is no impact on the biodiversity due to project activity. Also, the local villagers had also confirmed the same during Stakeholder feedback round. http://moef.gov.in/wpcontent/uploads/2019/09/Ramsaar-Factsheets_2020-Final-8-May-2020.pdf	
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Principle 9.11 Endangered Species

a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? b. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	No. There were no endangered species found in the project boundary, project has got the approval from ministry of environment and forest, India. No. The project does not impact other areas where endangered species may be present	Not required
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23 VALIDATION OPINION

TUV SUD has performed a validation of the updated GSPDD for the project activity “ 100.5 MW Wind Power Project in Madhya Pradesh, India” GS registration No GS - 3969. The validation of the updated GSPDD has been performed for second renewal crediting period is based on the information made available to us.

TUV SUD has performed this validation in accordance with Clean Development Mechanism Validation and Verification Standard version 02.0 of 29/11/2018 and GS4GG principles and requirements, version 1.2 of 23/10/2019, which included an assessment of:

- An impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the crediting period at the time of requesting renewal of crediting period:
- The correctness of the application of an approved baseline methodology and determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period.
- On going financial need.
- SDG outcomes.

During the validation, there are not proposed post-registration changes for the next crediting period that is submitted together with the request for renewal of crediting period of the registered CDM project activity.

The review of the updated project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews have provided TUV SUD with sufficient evidence to validate the fulfillment of the stated criteria applicable for RCP.

The review of PDD and the subsequent follow-up interviews has provided TUV SUD with sufficient evidence to determine the validity of the original baseline scenario. The project correctly applies the baseline and monitoring methodologies. The total emission reductions from the project activity “ 100.5 MW Wind Power Project in Madhya Pradesh, India ” are estimated to be on an average 167,934 tCO₂e per year. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

Annex 1: Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

CL ID	01	Section no.	Date: 05/04/2022
Description of CL			
PP requested to provide the following documents for the project activity: -			
1 Design review by CP1 for CP1			
2. Latest performance review completed			
3. COD/PPA			
4. NOC approvals performance review			
5. KML file for all WTGs location			
6. No double counting declaration			
7. Technical specification details			
8. ODA Declaration			
9. PLF report supporting evidence			
10. Latest O & M Contract between REGEN & MMK			
Project participant response			Date: 13/04/2022
Response:			
2. PP has submitted the supporting copy for the Design Review CP1			
3. PP has submitted the latest copy of performance review to the DOE for the Further review.			
4. PP has submitted the Copy of commission certificate for the further review.			
5. PP has submitted the Final closer copy of the Performance Review for the current project activity.			
6. PP has submitted the location of all WTGs KML file format for further review.			
7. PP has submitted the No-Double Counting Declaration for further review.			
8. Technical specification details have been provided in the section A.3 of the PDD. A copy of technical cut sheet has been submitted to the Assessment team for the further review.			
9. ODA has been submitted to Assessment team.			
10. As the current Project activity is undergoing for the Renewable of crediting period hence PP has taken the average of PLF given in registered PDD PLF and from the Monitoring period.			
11. PP has submitted the Copy of O&M agreement to the Assessment team for the further review.			
Documentation provided by project participant			

1. Design Review CP1 2. Latest performance review completed 3. commission certificate 4. KML file for all WTGs location 5. No double counting declaration 6. Technical specification details 7. ODA Declaration 8. O & M Contract between REGEN	
DOE assessment	Date: 15/04/2022
All requested documents are submitted. CL is closed	

CL ID	02	Section no.		Date: 05/04/2022
Description of CL				
The deadline for the crediting period has been expired, PP has requested to provide the approval GS communication mail & deviation form for the project activity.				
Project participant response				Date: 13/04/2022
PP has submitted the Communication mail with the GS, along with that PP has submitted the copy of Deviation form to the assessment team for the further review/.				
Documentation provided by project participant				
DOE assessment				Date: 15/04/2022
PP has submitted the deviation form and mail communication with GS. CL is closed				

CL ID	03	Section no.		Date: 05/04/2022
Description of CL				
The supporting documents related to Data and parameters to be monitored are not submitted to the assessment team.				
For example				
1. Sample JMR& invoices 2. training & workshops that are given to the respective O&M staff. 3. Technical Training 4. Soft Skill Training 5. Employment details - declaration 6. Income generation – declaration 7. Legal issue – declaration 8. Single line diagram for the project activity				
Project participant response				Date: 13/04/2022

1. PP has submitted the sample copy of JMR & Invoice to the Assessment team. Response 2,3 & 4: for PP has submitted the attendance sheet as a supporting document for all the workshop & training conducted for O&M Personal. 5. PP has submitted the Employment declaration to the Assessment team. 6. PP has submitted the Copy of Pay slip for the supporting review. 7. PP has submitted the legal issue declaration to the Assessment team for further review. 8. PP has provided the SLD in Section B.3 of the PDD. A revised Copy of PDD has been submitted to the Assessment team for the further review.	
Documentation provided by project participant	
1. Copy of JMR & Invoice for the month of Jan 2020. 2. Attendance sheet for training & workshop 3. Employment declaration 4. Pay-Slip 5. legal issue declaration	
PDD Ver: 02	
DOE assessment	Date: 15/04/2022
Revised PDD and supporting documents are submitted. CL is closed	

Table 2. CAR from this validation

CAR ID	01	Section no.		Date: 05/04/2022
Description of CAR				
1. The updated version of the applied methodology is not consistent throughout the PDD. Hence corrective action is sought for the same. 2. PP is requested to reframe the language of sections in PDD as the project activity is already implemented and contributes towards emission reduction. Thus, corrective action was sought. 3. In Section A.1, crediting period of the project activity is mentioned 7 years. PP has requested to clarify the same 4. In section B.6.3, annual estimated ERs are not consistent in line with ER sheet. 5. In section B.7, CEA Database Version 16.0 is mentioned, PP is requested to clarify the same.				
Project participant response				Date: 13/04/2022

Response 1: PP has used the Applied methodology ACM0002: Grid-connected electricity generation from renewable sources: Version 20.0. same information has been made consistent through out the PDD. PP has submitted the revised copy of PDD to the assessment team for further review.

Response 2: As the current project activity is already commissioned hence PP has revised the language of the PDD. A revised copy of PDD has been submitted to the assessment team for further review.

Response 3: For the current project activity the length of total crediting period is 5 years. Same information has been provided in the revised copy of PDD. A revised Copy of PDD has been as-
assessment team for further review.

Response 4: PP has claimed the Estimated net GHG emission reductions or removals 1,67,934 tCO₂e same information has been made consistent through out the PDD and ER sheet.

Response 5: PP has referred the latest CEA Database Version 17.0. Same information has been revised in the section B.7 of the PDD. PP has submitted the revised copy PDD assessment team for further review.

Documentation provided by project participant

1. PDD Ver:02
2. ER sheet _Ver :02

DOE assessment

Date: 15/04/2022

Revised PDD and ER sheet received. CAR is closed

Table 3. FAR from this validation
NA

Annex 2

Information Reference List

No.	Author	Title	References to the document	Provider
1.	Infinite Solution	GS-PDD for the project activity titled “100.5 MW Wind Power Project in Madhya Pradesh, India”	Version 02 of 22/02/2022	PP
2.	CDM Executive Board	CDM project cycle procedure for project activities	Version 03	Others
3.	CDM Executive Board	CDM project standard for project activities	Version 03	Others
4.	CDM Executive Board	CDM validation and verification standard for project activities	Version 03	Others
5.	CDM Executive Board	ACM0002: Grid-connected electricity generation from renewable sources	Version 20.0	Others
6.	CDM Executive Board	“Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period”	version 03.0.1 of 02/03/2012	Others
7.	CDM Executive Board	CDM-PDD-FORM: Project design document form for CDM project activities, including Attachment: Instructions for filling out the project design document form for CDM project activities	version 11 of 31/05/2019	Others
8.	Infinite Solution	Emission reduction spread sheets “ER Spreadsheet”	Version 2.0 of 22/02/2022	
9.	TUV SUD South Asia pvt Ltd	Validation report of “100.5 MW Wind Power Project in Madhya Pradesh, India”	Revision no. 02 of 15/04/2022	Others
10.	CDM Executive Board	Methodological tool “Tool to calculate the emission factor for an electricity system”	Version 07.0 of 31/08/2018	Others
11.	CDM Executive Board	Methodological tool “ Tool to determine the remaning lifetime of equipment”	Version 01 of 16/10/2009	Others
12.	CDM Executive Board	Unfccc site: Project view page https://cdm.unfccc.int/Projects/DB/BVQI1365743425.03/view	-	Others
13.	Gold Standard	The Gold Standard global goals principles & requirements	Version 1.2 of 23/10/2019	Others
14.	Orange Mamatkhedha Wind Private Limited	Power Purchase Agreement	Date:14.08.2014	PP
15.	Orange Mamatkhedha Wind Private Limited	Commissioning certificate	Date: 20.08.2014	PP

16.	Orange Mamatkhedha Wind Private Limited	Grievance register	2020-21	PP
17.	Orange Mamatkhedha Wind Private Limited	Payrolls and list of employees	2020-21	PP
18.	Orange Mamatkhedha Wind Private Limited	Training certificates	2020-21	PP
19.	Gold Stanadard	GS-COVID-19: Interim measures	Dated 06/04/2020	Others

Annex 3

Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GS4GG	Gold Standard for Global Goals
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change

LoA	Letter of Approval
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Participant(s)
PPA	Power Purchase Agreement
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard



South Asia

Annex 4

Appointment Certificates



CERTIFICATE OF APPOINTMENT

Mr. Kewat, Shailendra fulfills the requirements of the Certification Body 'Environment and Energy' of TUV SUD South Asia Pvt Ltd to participate in audits.

Qualification applicable to					
Standard	CDM	GS	VOS	ISO-14001-1:2005	Other
	☒	☒	☒	☒	☐

Qualification as						
Status	Validator	Verifier	A.T.	Technical Reviewer	Financial Expert	Technical Expert
	☒	☒	☒	☐	☒	☒
TA (a)	1.2, 3.1, 5.1, 13.1					

Country Expertise						
Region	1	2	3	4	5	Other
	☒	☐	☐	☐	☐	
Further countries	India					

Technical Area	
1.2_Renewables	
3.1_Energy Demand	
5.1_Chemical Industries	
13.1_Solid waste and waste water	

This appointment is valid until 31.06.2022 and is bound by internal requirements of the Certification Body 'Environment and Energy' of TUV SUD South Asia Pvt Ltd.

In case of loss of validity of this certificate as per result of an assessment according to internal procedures or due to any other reason, it will be properly communicated to you.

Your Certificate has the internal reference no. CD-IND-CCP-0105/02.

Date	Signature
01/06/2021	

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CERTIFICATE OF APPOINTMENT

Mr. Murty, Eswar fulfils the requirements of the Certification Body 'Environment and Energy' of TUV SUD South Asia Pvt Ltd to participate in audits.

Qualification applicable to					
Standard	CDM	GS	VCS	ISO-14004-1:2006	Other
	☒	☒	☒	☒	☐

Qualification as						
Status	Validator	Verifier	ATL	Technical Reviewer	Financial Expert	Technical Expert
	☒	☒	☒	☒	☒	☒
TA (s)	1.1, 1.2, 3.1, 4.1, 13.1					

Country Expertise						
Region	1	2	3	4	5	Other
	☒	☐	☐	☐	☐	
Further countries						

Technical Area	
1.1_Thermal Energy Generation	
1.2_Renewables	
3.1_Energy demand	
4.1_Cement and lime production	
13.1_Solid waste and wastewater	

This appointment is valid until 31.05.2021 and is bound by internal requirements of the Certification Body 'Environment and Energy' of TUV SUD South Asia Pvt Ltd.

In case of loss of validity of this certificate as per result of an assessment according to internal procedures or due to any other reason, it will be properly communicated to you.

Your Certificate has the internal reference no. CB-IND-CCP-0031/011.

Date	Signature
01/08/2020	

IS-CMS-CB-POG-01/05, version 03

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