

Validation report for GS project activity

BASIC INFORMATION	
Title of the project activity	Title: Jbel Sendouq-Khalladi Wind Farm Project in Morocco GS reference number: GS5073
Scale of the project activity	☒ Large-scale ☐ Small-scale
GS Version applicable	GS4GG
Version number of the validation report	1.1
Completion date of the validation report	26/03/2025
Version number of the PDD to which this report applies	1.2
Project Participants and any communities involved	ACWA Power Khalladi S.A.
Host Party	Morocco
Applied methodology	Methodology applied: ACM0002 - Grid-connected electricity generation from renewable sources (version 21.0)
Activity Requirements applied:	Renewable Energy Activity Requirement
Product Requirements applied:	GHG Emissions Reduction & Sequestration
Regular/Retroactive:	Retroactive
Mandatory sectoral scopes	Sectoral Scope 1: Energy industries (renewable - / non-renewable sources)
Conditional sectoral scopes, if applicable	N/A
Estimated amount of SDG Impact Certified	SDG 13: GHG Emission Reductions - 220,239 tCO ₂ e/year SDG 5: Number of Women Employees - 2 SDG 7: Clean Electricity supplied to grid - 296,100 MWh SDG 8: Jobs created, Trainings conducted - 10 Jobs, 1 Training
Name and UNFCCC reference number of the DOE	4K Earth Science Private. Limited UNFCCC Ref No. CDM-E-0069
Name, position and signature of the approver of the validation report	Stalin S 

	Regional Manager 26/03/2025
--	--------------------------------

SECTION A. Executive summary

>>

4K Earth Science Private Limited has been contracted by 'Numerco Limited' to perform a validation of the renewal of the crediting period of GS project 'Jbel Sendouq-Khalladi Wind Farm Project in Morocco' (GS5073) in Morocco.

The scope of the validation is defined as an independent and objective review of the GS project design document, the project's baseline study, monitoring plan and other relevant documents. The information in these documents is reviewed against the requirements of 'Gold Standard for Global Goals' in conjunction with the CDM Validation and Verification Standard for Project Activities (version 03.0), Project Cycle Procedure for Project Activities (version 03.0), Project Standard for Project Activities (version 03.0), Kyoto Protocol requirements and UNFCCC rules.

The report is based on the assessment of the GS project design document, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., electronic (Google meet) interviews) and also the review of the applicable approved methodological and relevant tools, GS4GG guidance and CDM decisions.

The objective of the current project, "Jbel Sendouq-Khalladi Wind Farm Project in Morocco", is to generate electricity using state-of-the-art wind power generation technology. The said project is located in the Tangier-Tetouan Region, Fahs Anjra Province, Morocco. The 40 wind turbines with a nominal unit capacity of 3 MW are installed, providing a total capacity of 120 MW. The net expected electricity generation is estimated at 296,100 MWh/year.

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

The project aims to provide clean, renewable, reliable, and sustainable energy to the grid of the Morocco. The baseline scenario of the project involves grid connected electricity generation in the grid of Morocco. By using wind energy, the project displaces CO₂ emissions generated by fossil-fuel fired power plants. In the absence of the proposed project, the electricity would have been generated by existing fossil-fuel fired power plants along with addition of new fossil-fuel based power plants.

The above details of the project have been verified from the submitted supporting documents and through the interviews during the remote audit. Project activity power plant when in full operation, will result in a reduction of 220,239 tCO₂ on average per year and 1,101,195 tCO₂ over the first crediting period of 5 years along with direct environmental, social and economic benefits.

The review of the project design documentation and the subsequent follow-up interviews have provided 4KES with sufficient evidence to determine the project's fulfilment of all the stated criteria. In our opinion, the project meets all applicable GS4GG requirements along with UNFCCC requirements for the CDM.

- ☒ The project is recommended with a request for registration.
- ☐ The project is not recommended for request for registration.

SECTION B. Validation team, technical reviewer and approver

B.1. 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/document review	On-site inspection	Interviews	Validation findings
1.	Team Leader and Technical Expert (TA 1.2)	EI	Kumar	Narendra	Central Office	✓		✓	✓
2.	Team Member	IR	Acharya	Swati S	Central Office	✓		✓	✓

B.2. Technical reviewer and approver of the validation 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 & Expert (TA 1.2)	IR	Kanal	M.P.	Central office
2.	Approver	IR	S.	Stalin	Central Office

SECTION C. Means of validation

C.1. Desk/document review

>>

The report is based on the assessment of the project design document, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., electronic (Google meet) interviews) and also the review of the applicable approved methodological and relevant tools, GS4GG guidance and CDM decisions.

All the documents used for arriving validation conclusion are listed in Appendix 03 and referenced accordingly in validation report.

C.2. Remote audit

Validation team has used the following means for its assessment and to justify that they are sufficient for the purpose of validation.

- Complete desk review of the initial GS PDD /02/, as well as all the supportive evidences have been checked by the Validation team.
- By taking follow up actions by conducting interview with PP's representative/Consultant to gather information about knowledge of project design, implementation, management system of the PA, project technology, stakeholder consultation, monitoring plan, start date, methodology applicability, SDG impact etc. via Google meet. Cross-checked evaluation under the scope of all information and references provided in PDD.
- Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.

As per para 3.2.1 of Site Visit and Remote Audit Requirements and Procedures, version 2.0, A physical site visit by VVB is not mandatory at the validation (Design Certification Renewal) of a project activity.

Details of interviewees, topics covered and additional information presented in the below section “C.3 Interviews”.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Turner	Gareth	Director, Numerco Limited	17/04/2024	1. Issues in the PDD	Mr. Narendra Kumar Swati S Acharya (Google meet interviews)
2.	Mishra	Anushree	Regional Manager, Numerco Limited		2. Roles and responsibilities	
3.	Benjelloun	Abdelmajid	Representative, ACWA Power Khalladi S.A.		3. Applicability of the methodology	
4.	Zennouhi	Kamal	Representative, ACWA Power Khalladi S.A.		4. Additionality	
5.		Alaoui	Representative, ACWA Power Khalladi S.A.		5. Emission reduction	
					6. Monitoring requirement	
					7. Monitoring procedure	
					8. Data collection	
					9. Start date	
					10. Sustainable Development parameters	
					11. Grievance Mechanism	
					12. Environmental impacts	
					13. Local stakeholder consultation etc.	

C.4. Sampling approach

>>

Not Applicable

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

During the validation, 02 CL and 5 CAR were raised and successfully closed. 0 FAR were raised during the current validation of the renewal of the crediting period. Refer Appendix 4 of this report for more details.

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	Validation team checked the Project Design Document /01/ with latest version of PDD template available on the GS website (i.e., version 1.5).
----------------------------	---

Findings	CAR 01 was raised and successfully closed. Refer Appendix 4 of this report for more details.
Conclusion	The validation team confirms that the proposed project activity meets the requirement of GS4GG and the PDD is completed using the valid version of the PDD form appropriate to the type of project activity.

D.2. Description of project activity

Means of validation

of

The objective of the current project, Jbel Sendouq-Khalladi ("Khalladi") Wind Farm Project in Morocco, is to generate electricity using state-of-the-art wind power generation technology. The electricity is produced from the renewable resources and sold the generated electricity to a pool of clients.

The said project is located in the Tangier-Tetouan Region, Fahs Anjra Province, Morocco. The geo-coordinates of the project activity are given under section A.2 of the GS PDD /01/ which have been verified through web (<https://www.latlong.net/>)27/ by the validation team and found Ok. The 40 wind turbines with a nominal unit capacity of 3 MW installed, providing a total capacity of 120 MW. The turbines model is a Vestas V90-3000, each of the three blades is 44m long and the tower height is 80m. The turbine comprises of the following components

The capacity and technical specifications of the installed equipments have been confirmed through the Service and Availability Agreements/4/, submitted manufacturer's specifications/3/, Operation & Maintenance Agreements/7/. The technical details have also been confirmed through the interviews conducted during the remote audit.

The principle of a wind farm is to capture wind energy, convert it to kinetic energy by a rotational movement, which drives a conventional electric generator to produce electricity. The mechanism by which the energy of the wind is converted to electric power is the Turbine. In conformance with industrial best practice and design guidelines, the turbines positioned approximately 240m apart, which is equivalent to 5-7 times the length of the blade in the direction of the wind, and 3 times the diameter of the rotor in a perpendicular direction to the wind.

GPS Coordinates of Turbines:

WTG label	WTG type	Hub Height	Latitude	Longitude
V01	V90-3.0 MW	80	35° 46' 37.0668"	-5° 36' 9.612"
V02	V90-3.0 MW	80	35° 46' 30.864"	-5° 36' 8.334"

V03	V90-3.0 MW	80	35° 46' 15.9528"	-5° 36' 3.308"
V04	V90-3.0 MW	80	35° 46' 9.9048"	-5° 36' 3.748"
V05	V90-3.0 MW	80	35° 46' 4.2096"	-5° 36' 7.625"
V06	V90-3.0 MW	80	35° 46' 19.902"	-5° 35' 29.116"
V07	V90-3.0 MW	80	35° 46' 20.604"	-5° 35' 14.528"
V08	V90-3.0 MW	80	35° 46' 28.3908"	-5° 35' 14.579"
V09	V90-3.0 MW	80	35° 46' 35.472"	-5° 35' 15.727"
V10	V90-3.0 MW	80	35° 46' 42.9096"	-5° 35' 15.45"
V11	V90-3.0 MW	80	35° 46' 17.202"	-5° 34' 48.655"
V12	V90-3.0 MW	80	35° 46' 8.1444"	-5° 35' 16.033"
V13	V90-3.0 MW	80	35° 46' 9.1956"	-5° 34' 52.777"
V14	V90-3.0 MW	80	35° 46' 0.678"	-5° 34' 46.132"
V15	V90-3.0 MW	80	35° 45' 54.1944"	-5° 34' 39.792"
V16	V90-3.0 MW	80	35° 45' 46.728"	-5° 34' 36.883"
V17	V90-3.0 MW	80	35° 45' 39.6108"	-5° 34' 34.342"
V18	V90-3.0 MW	80	35° 45' 32.49"	-5° 34' 30.49"
V19	V90-3.0 MW	80	35° 45' 27.1548"	-5° 34' 26.616"
V20	V90-3.0 MW	80	35° 45' 21.132"	-5° 34' 19.855"
V21	V90-3.0 MW	80	35° 45' 15.21"	-5° 34' 16.122"
V22	V90-3.0 MW	80	35° 45' 7.7796"	-5° 34' 13.134"
V23	V90-3.0 MW	80	35° 45' 0.828"	-5° 34' 10.445"
V24	V90-3.0 MW	80	35° 44' 55.482"	-5° 34' 4.022"
V25	V90-3.0 MW	80	35° 44' 49.8408"	-5° 33' 59.144"
V26	V90-3.0 MW	80	35° 44' 44.5848"	-5° 33' 53.003"
N27	V90-3.0 MW	80	35° 43' 18.7716"	-5° 33' 22"
N28	V90-3.0 MW	80	35° 43' 24.9312"	-5° 33' 38.948"
V29	V90-3.0 MW	80	35° 44' 23.7012"	-5° 33' 47.837"
N30	V90-3.0 MW	80	35° 44' 27.0132"	-5° 33' 56.858"
V31	V90-3.0 MW	80	35° 44' 18.5604"	-5° 33' 53.165"
V32	V90-3.0 MW	80	35° 44' 12.5232"	-5° 33' 50.105"
V33	V90-3.0 MW	80	35° 44' 6.342"	-5° 33' 49.388"
V34	V90-3.0 MW	80	35° 44' 0.7476"	-5° 34' 2.183"
V35	V90-3.0 MW	80	35° 43' 52.7088"	-5° 33' 58.702"
V36	V90-3.0 MW	80	35° 43' 46.4592"	-5° 33' 58.183"
V37	V90-3.0 MW	80	35° 43' 39.882"	-5° 33' 56.182"
N38	V90-3.0 MW	80	35° 43' 34.6692"	-5° 33' 51.001"
N39	V90-3.0 MW	80	35° 43' 29.5608"	-5° 33' 45.544"
V40	V90-3.0 MW	80	35° 43' 20.6436"	-5° 33' 33.16"

Additionally, the geo-coordinates have been checked on the google-earth website and found the latitude/longitude of the turbines as correct.

In the baseline scenario, 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. By using wind energy, the project displaces CO₂ emissions generated by fossil-fuel fired power plants.

The project activity produces positive environmental and economic benefits through the following aspects:

	• Displacing the electricity generated by fossil fuel fired power plants by utilizing the renewable resources so as to avoid environmental pollution and GHG emissions, • Contributing the economic development of the region by providing sustainable energy resources, • Increasing the income and local standard of living by providing job opportunities for the local people. • Production of pillar and other equipment in Morocco indirectly cause the know-how transfer and empower the local industry. The expected net electricity generation is estimated at 296,100 MWh/year. The average lifespan of the Turbine is considered as 20 years, which is reasonable as the lifetime of onshore wind turbines are provided as 25 years as per the "Methodological Tool: Tool to determine the remaining lifetime of equipment, version 01". The project falls under GS4GG Renewable Energy Activities Requirements. Validation team confirm that project activity has met the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements /20/. <table border="1"> <thead> <tr> <th data-bbox="435 703 954 735">GENERAL ELIGIBILITY CRITERIA</th><th data-bbox="954 703 1399 735">VVB Justification</th></tr> </thead> <tbody> <tr> <td data-bbox="435 735 954 1934">Types of Project: Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.</td><td data-bbox="954 735 1399 1934"> The project activity includes construction and operation of a wind power plant to generate renewable electricity. The project is connected to the Moroccan national grid operated by ONEE (Office National de l'Electricité du Maroc – the Moroccan National Electricity Bureau). The electricity will be wheeled via the grid to be sold to specific consumers through a power purchase agreement. The wind power project activity is an eligible project type according to section 2 of GS4GG Renewable energy activity requirements, version 1.4 /22/. Project eligibility as per GS4GG Renewable energy activity requirements, version 1.4 /22/ is justified below. 1. Projects generate and deliver energy services (electricity) from non-fossil and renewable energy sources. (Para 2.1.2 (a)) 2. Projects comprise of renewable energy generation units i.e. wind that are supplying energy to an identified consumer facility via national/regional grid through a contractual agreement such as wheeling (Para 2.1.2 (b)) 3. As the current validation of the project activity is not for a new renewable energy project, but this validation is for the renewal of the crediting period of the project activity, hence para 2.1.3 of GS4GG Renewable energy activity </td></tr> </tbody> </table>	GENERAL ELIGIBILITY CRITERIA	VVB Justification	Types of Project: Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.	The project activity includes construction and operation of a wind power plant to generate renewable electricity. The project is connected to the Moroccan national grid operated by ONEE (Office National de l'Electricité du Maroc – the Moroccan National Electricity Bureau). The electricity will be wheeled via the grid to be sold to specific consumers through a power purchase agreement. The wind power project activity is an eligible project type according to section 2 of GS4GG Renewable energy activity requirements, version 1.4 /22/. Project eligibility as per GS4GG Renewable energy activity requirements, version 1.4 /22/ is justified below. 1. Projects generate and deliver energy services (electricity) from non-fossil and renewable energy sources. (Para 2.1.2 (a)) 2. Projects comprise of renewable energy generation units i.e. wind that are supplying energy to an identified consumer facility via national/regional grid through a contractual agreement such as wheeling (Para 2.1.2 (b)) 3. As the current validation of the project activity is not for a new renewable energy project, but this validation is for the renewal of the crediting period of the project activity, hence para 2.1.3 of GS4GG Renewable energy activity
GENERAL ELIGIBILITY CRITERIA	VVB Justification				
Types of Project: Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.	The project activity includes construction and operation of a wind power plant to generate renewable electricity. The project is connected to the Moroccan national grid operated by ONEE (Office National de l'Electricité du Maroc – the Moroccan National Electricity Bureau). The electricity will be wheeled via the grid to be sold to specific consumers through a power purchase agreement. The wind power project activity is an eligible project type according to section 2 of GS4GG Renewable energy activity requirements, version 1.4 /22/. Project eligibility as per GS4GG Renewable energy activity requirements, version 1.4 /22/ is justified below. 1. Projects generate and deliver energy services (electricity) from non-fossil and renewable energy sources. (Para 2.1.2 (a)) 2. Projects comprise of renewable energy generation units i.e. wind that are supplying energy to an identified consumer facility via national/regional grid through a contractual agreement such as wheeling (Para 2.1.2 (b)) 3. As the current validation of the project activity is not for a new renewable energy project, but this validation is for the renewal of the crediting period of the project activity, hence para 2.1.3 of GS4GG Renewable energy activity				

		requirements, version 1.4 is not applicable. Hence the project activity is eligible under GS4GG.
	Location of Project: Projects may be located in any part of the world.	The project activity is located in Morocco, hence the project is eligible
	Project Area, Project Boundary and Scale: The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements. In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature, the project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects).	The project activity follows the UNFCCC approved methodology and project area and boundary is defined in line with methodological requirement. According to the applied CDM methodology, the spatial extent of the project boundary incorporates 120MW wind energy project, substation, all the power plants connected physically to the national grid to which the proposed project will also be connected. The project boundary diagram is given in section B.3 of this PDD /01/. The project activity is an installation of a Greenfield power project with total installed capacity of 120MW/4//7/ as confirmed during the remote audit which is more than 15MW and hence, is categorized as a large-scale power plant. As per section 3.3.2 of GS4GG Renewable Energy Activity Requirements, version 1.4 /22/, this Renewable project estimates issuing emission reductions greater than 10,000 tCO₂e and its installed capacity is greater than 15 MW, thus the project falls under Non Microscale/ non-small scale categories. The project is not included in any other voluntary or compliance standards programme. Furthermore, the project's area does not overlap with any other projects, belonging to Gold Standard or any other Voluntary or compliance standard programme. Hence there is no question of double counting. This information was confirmed during the remote audit and also by checking with the other GHG programs.
	Host Country Requirements: Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	The project is in compliance with applicable host country's legal, environmental, ecological and social regulations/11/ as it has obtained necessary approvals/6/, which was confirmed during the remote audit. Further the operation of project has been confirmed through the publicly

		available sources as available on the google.
	Contact Details: As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organisation (iii) the legal registration details and (iv) documentation by the governing jurisdiction that proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold0020Standard retains the right (at its own discretion) to refuse use of the Standard where reputational concerns are highlighted.	All such details are mentioned in Appendix 1 of the PDD /01/. Further the publicly available sources on the google were checked and found no information, which may prove false impact of the project owner.
	Legal Ownership: Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Where such ownership is transferred from project beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC). Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.	The project activity is being undertaken by ACWA Power Khalladi S.A. which is the sole owner of the project activity and any Products generated under Gold Standard Certification. The same was confirmed during the remote audit. The details are presented in section A.1.2 of this PDD /01/.
	Other Rights: As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (for example, access rights, water rights etc.). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further project implementation in affected areas.	The project activity is being undertaken by ACWA Power Khalladi S.A. which is the sole owner of the project activity and any Products generated under Gold Standard Certification. The project owner has the legal rights concerning changes in the use of resources required to service the project for land use, construction, selling electricity license/5/6/8 and so on, which was confirmed during the remote audit. The details are presented in section A.1.2 of this PDD /01/.
	Suppressed demand	The Suppressed Demand baseline is only applied for small scale and microscale projects while this project activity is a large scale, so Suppressed Demand scenario was not applied for establishing the baseline.
	Stacking	As per section 3.5 of Renewable Energy Activity Requirement, version 1.4, GS VERs with REC labels (if any) cannot be claimed for the same MWh.

	The project will only claim for GSVERs and therefore, will not be stacking. Under section D.2 of the GS PDD, PP has provided the assessment that project complies with 'gender sensitive' requirements which is found correct and acceptable. The same was also verified during the stakeholder interview. Project activity power plant when in full operation, will result in a reduction of 220,239 tCO₂ on average per year and 1,101,195 tCO₂ over the first crediting period of 5 years along with direct environmental, social and economic benefits.
Findings	No findings raised.
Conclusion	The assessment team confirms that GS PDD contains a transparent and accurate description of the project activity and provides reader a clear understanding of the project activity

D.3. Application and selection of methodologies and standardized baselines

D.3.1. Application of methodologies and standardized baselines

Means of validation	The large-scale project activity utilizes version 21.0 of ACM0002: "Grid-connected electricity generation from renewable sources" /02/ which is the latest version available on the UNFCCC website. Under section B.2 of the PDD, project has been assessed for all the applicability conditions of the applied methodology.		
	No.	Applicability conditions in Version 21.0 of ACM0002	Applicability criterion met?
	1	This methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plants/units; (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s)/unit(s).	Yes The project activity consists of the installation of a new grid connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield power plant). Hence point (a) is applicable. Hence the project is in compliance with applied version of the methodology ACM 0002 Version 21/2/.

	2	In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Integrate BESS with a Greenfield power plant; (b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic¹ or wind power plant(s)/unit(s); (c) Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); (d) Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or wind power plant(s)/unit(s). Table 2. Combinations of renewable energy technologies and mode of BESS applicable for integration <table><tr><th>Renewable Energy Technology Mode of installation of BESS</th><th>Solar photovoltaic or wind</th><th>Other renewable technologies</th></tr><tr><td>BESS + (a) Greenfield plant(s)</td><td>Eligible</td><td>Eligible</td></tr><tr><td>-BESS+ capacity addition to existing plant(s)</td><td>Eligible</td><td>Not eligible</td></tr><tr><td>BESS with no other changes to the existing plant(s)</td><td>Eligible</td><td>Not eligible</td></tr><tr><td>BESS + retrofit to existing plant(s)</td><td>Eligible</td><td>Not eligible</td></tr></table>	Renewable Energy Technology Mode of installation of BESS	Solar photovoltaic or wind	Other renewable technologies	BESS + (a) Greenfield plant(s)	Eligible	Eligible	-BESS+ capacity addition to existing plant(s)	Eligible	Not eligible	BESS with no other changes to the existing plant(s)	Eligible	Not eligible	BESS + retrofit to existing plant(s)	Eligible	Not eligible	N/A	The project activity is the installation of a new Wind power plant and does not integrate any BESS system. Hence this para is not applicable. Hence the project is in compliance with applied version of the methodology ACM 0002 Version 21.
Renewable Energy Technology Mode of installation of BESS	Solar photovoltaic or wind	Other renewable technologies																	
BESS + (a) Greenfield plant(s)	Eligible	Eligible																	
-BESS+ capacity addition to existing plant(s)	Eligible	Not eligible																	
BESS with no other changes to the existing plant(s)	Eligible	Not eligible																	
BESS + retrofit to existing plant(s)	Eligible	Not eligible																	
	3	The methodology is applicable under the following conditions: (a) Hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;	Yes	a) The project activity is the installation of a new wind power plant as verified through the remote interviews.															

				Hence the project is in compliance with applied version of the methodology ACM 0002 Version 21.0.
		(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.	Not applicable	b) The project activity consists of the installation of a new grid connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield power plant). Hence this para is not applicable. Hence the project is in compliance with applied version of the methodology ACM 0002 Version 21.0.
		(c) In case of Greenfield project activities applicable under paragraph 5 (a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g. by referring to feasibility studies or investment decision documents);	Not applicable	c) The project activity consists in the installation of a new grid connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield power plant). Hence this para is not applicable.

			Hence the project is in compliance with applied version of the methodology ACM 0002 Version 21.0.
		Not applicable	d) The project activity consists in the installation of a new grid connected renewable power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield power plant). Hence this para is not applicable. Hence the project is in compliance with applied version of the methodology ACM 0002 Version 21.0.
	4	In case of hydro power plants, one of the following conditions shall apply: (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 of the following conditions shall apply: i. The power density calculated using the total installed capacity of the	Not applicable The project activity is the installation of a new wind power plant. Hence this para is not applicable. Hence the project is in compliance with applied version of the methodology ACM 0002 Version 21.0.

		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.		
	5	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 scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum of five years prior to the implementation of the CDM project activity.	Not applicable	The project activity is not an integrated hydropower plant. Hence this para is not applicable. Hence the project is in compliance with applied version of the methodology ACM 0002 Version 21.0.
	6	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.	Not applicable Not applicable	It is a renewable energy project with no fuel-switch and biomass fired power plant involved. The project activity is the installation of a new wind power plant. Hence this para is not applicable. Hence the project is in compliance with applied

			version of the methodology ACM 0002 Version 21.0.
	7	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”.	Not applicable The project activity is the installation of a new wind power plant. Hence this para is not applicable. Hence the project is in compliance with applied version of the methodology ACM 0002 Version 21.0.
	It can be concluded by the assessment team that the project meets all the applicability criteria established in the methodology/applicable tools. Validation team has verified the same from the remote interviews and documents review/3/4/5/6/7/8/9/10/11/.		
Findings	CAR 02 was raised and successfully closed. Refer Appendix 4 of this report for more details.		
Conclusion	The applied baseline and monitoring methodology and relevant tool are valid and applicable to the project activity. Applied methodology version i.e. ACM0002 Version 21.0 is the latest version available. The project fulfils all relevant criteria of the applied methodology ‘ACM0002: Grid-connected electricity generation from renewable sources’ – Version 21.0. Hence, use of the selected methodology is appropriate for this project activity.		

D.3.2. Project boundary, sources and GHGs

Means of validation

According to para 22 of Version 21.0 of ACM0002, the spatial extent of the project boundary includes the project power plant/unit and all power plants/units connected physically to the electricity system that the CDM project power plant is connected to.

The project boundary incorporates 120MW Wind Energy Project, substation, all power plants connected physically to the national grid to which the proposed project will also be connected. Diagram showcasing the project boundary is given below.

Sources and gases included in or excluded from the project boundary

Source	GHGs	Included?	Justification/Explanation
Baseline scenario	CO2	Yes	Main Emission Source
	CH4	No	Minor Emission Source
	N2O	No	Minor Emission Source
Project scenario	Greenfield	CO2	As per ACM002, a wind energy project produces
	Wind	CH4	

		Energy Project	N ₂ O	No	zero emissions.
	The information was validated during the remote auditing conducted by the validation team and same has been demonstrated in section B.3 of the PDD.				
Findings	No finding raised.				
Conclusion	The project boundary confirmed during the remote auditing along with the documentary evidence/3/4/5/6/7/ was found in conformance with the applied baseline methodology. All sources of GHG emissions required by the methodology have been included in the project boundary and are justified in reference to the project activity. There are no project emissions/leakage emissions of any sort which are not addressed by the applied methodology occurring because of the project activity.				

D.3.3. Baseline scenario

Means of validation	According to para 24 of version 21.0 of ACM0002, for the project activity including the installation of a Greenfield grid-connected renewable power plant, the baseline scenario is the following: “Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the TOOL07”. The project activity includes construction and operation of a wind power plant to generate renewable electricity. The project is connected to the Moroccan national grid operated by ONEE (Office National de l'Electricité du Maroc – the Moroccan National Electricity Bureau). The electricity is wheeled via the grid to be sold to specific consumers through a power purchase agreement. The project applies for a renewal of the crediting period under the requirements of the Gold Standard Foundation so the Methodological 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 has been applied to demonstrate that the baseline of the project is still valid. The Tool consists of two steps: Step 1: The “Procedures for the renewal of the crediting period of a registered CDM project activity” approved by the CDM Executive Board require assessing the impact of new relevant national and/or sectoral policies and circumstances on the baseline. The validity of the current baseline is assessed using the following Sub-steps: The current baseline complies with all relevant mandatory national and/or sectoral policies which have come into effect after the submission of the project activity for validation or the submission of the previous request for renewal of the crediting period and are applicable at the time of requesting renewal of the crediting period. Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies As per the Energy-mix of the Morocco, as per International Energy Agency (IEA)/28/, coal and oil accounts for the major share of the energy generation in Morocco.
----------------------------	--

Total energy supply, Morocco, 2021



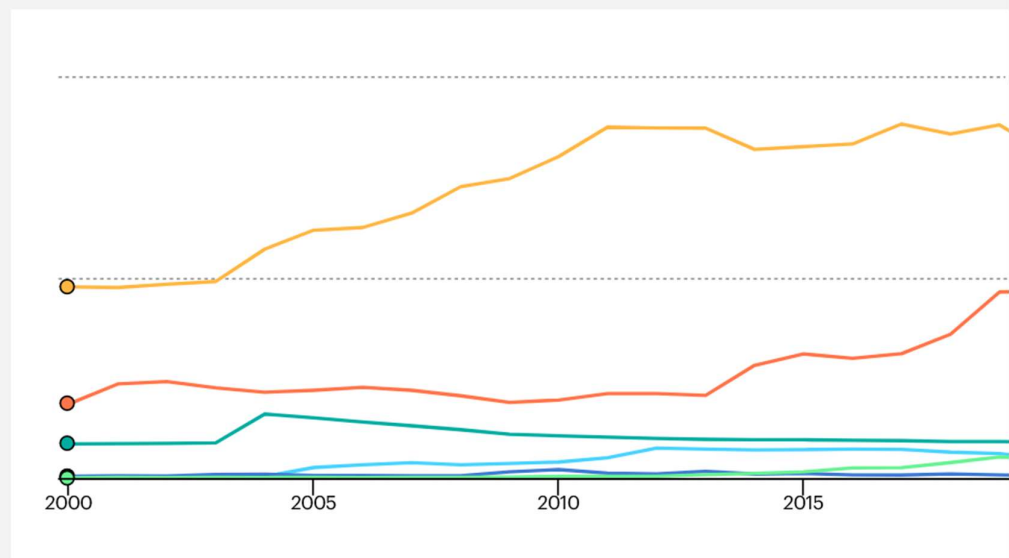
Evolution of total energy supply in Morocco since 2000

● Coal
● Oil
● Natural gas
● Hydro
● Wind, solar, etc.
● Biofuels and waste

Further it is clearly visible below that there is a continuous rise in the production of energy supply based on coal and oil, while the rise in energy generation from the renewable sources are not that significant in Morocco.

Evolution of total energy supply in Morocco since 2000

● Coal
● Oil
● Natural gas
● Hydro
● Wind, solar, etc.
● Biofuels and waste



Further the data published by the International Renewable Energy Agency (IRENA)/28/ has been checked. As per the data published, the major share of total energy supply comes from non-renewable sources of energy, which is mainly fossil fuel dominated.

	TOTAL ENERGY S		
	Total Energy Supply (TES)	2015	2020
	Non-renewable (TJ)	740 471	798 452
	Renewable (TJ)	62 508	97 691
	Total (TJ)	802 979	896 143
	Renewable share (%)	8	11
	Hence it can be easily concluded that the fossil fuels will remain the main sources for electricity generation. Fossil fuels will continue to dominate the market. The current baseline has been updated with the latest data and projections available by the official bodies. Hence the current baseline complies with all relevant mandatory national and/or sectoral policies. It's clear that the baseline scenario is still valid for the second crediting period in accordance with the tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period"/26/. Step 1.2: Assess the impact of circumstances There is no change in the circumstances as it is discussed in the above section. The fossil fuels will remain the main sources for electricity generation. Fossil fuels will continue to dominate the market. Hence the current baseline complies with all relevant mandatory national and/or sectoral policies. It's clear that the baseline scenario is still valid for the second crediting period in accordance with the tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period". Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested. This sub-step is not applicable since the baseline scenario identified at the validation of the project activity was not the continuation of use of the current equipment(s) without any investment. Step 1.4: Assessment of the validity of the data and parameters Sections B6 and B7 in the PDD have been updated. Step 2: Update the current baseline and the data and parameters Step 2.1: Update the current baseline The current baseline emissions for the subsequent crediting period have been updated. Step 2.2: Update the data and parameters Sections B6 and B7 in the PDD have been updated In the absence of the project activity, the equivalent amount of electricity would have been generated in the Morocco grid by the operation of power plants dominated by fossil-based generation sources as well as by the operation of new power plants. Therefore, the CO₂ intensity of the power generation in the grid is calculated as the Combined Margin discussed in Section D.3.6 of the report.		
Findings	CL 01 was raised and successfully closed. Refer Appendix 4 of this report for more details.		
Conclusion	The assessment of the applied baseline suggests that the baseline methodology has been correctly applied and the most appropriate and conservative baseline scenario has been selected: a) All data and values used by the project proponent have been listed and referenced in the PDD indicating their sources; b) Relevant documents have been used for the establishment of baseline scenario, interpreted appropriately; c) All the relevant national and sectoral policies and circumstances have been considered; d) The applied methodology's applicability has been found in accordance and the baseline identification has been found appropriate by the assessment team. e) Justification has been provided in the PDD and found OK.		

D.3.4. Demonstration of additionality

Means of validation	According to GS4GG Principles and Requirements version 1.2 para 5.1.14, Design Certification Renewal follows the same process as Validation and Design Review (Design Certification) though the scope of assessment is limited to: (a) Changes in the Project as related to the General Eligibility Criteria (b) Incorporation of any relevant updates to the Gold Standard Requirements (c) Re-definition of Baseline Scenario and any impact of change on the Eligibility Principles, Criteria and Requirements (d) Any Gold Standard activity, product and methodology-specific Requirements (e) Demonstration of Ongoing Financial Need, where relevant – see Ongoing Financial Need Therefore, additionality assessment is not performed for this project activity as the scope of the assessment is renewal of crediting period.
Findings	No findings were raised.
Conclusion	According to the GS4GG Principles and Requirements, additionality of the project is not required to reassess at the time of renewal of the crediting period.

D.3.5. Sustainable Development Goals (SDG) outcomes

Means of validation	The project contributes directly in achieving the SDG 3, SDG 5, SDG 7, SDG 8 & SDG 13 as required by Principle-1 of GS4GG.		
	Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact
			Indicator (Proposed or SDG Indicator)
	13 Climate action (mandatory)	13.2: Integrate climate change measures into national policies, strategies and planning	13.2.2: Total greenhouse gas emissions per year GHG Emission Reduction: 220,239 tCO ₂
	5 Gender Equality	5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.2: Number of women Employee Number of Women Employee: 2
	7 Affordable and Clean Energy	7.2: By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1: Renewable energy share in the total final energy consumption Clean Electricity supplied to grid: 296,100 MWh
	8 Decent Work and Economic growth	8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and	8.5.2: Unemployment rate, by sex, age and persons with disabilities Jobs created, Trainings conducted: 10 Jobs, 1 Training

	equal pay for work of equal value	
	<u>Explanation of methodological choices/approaches for estimating the SDG Impact:</u> SDG 13: Take urgent action to combat climate change and its impacts This project activity will reduce 220,239 tons of CO₂ equivalent/year and thus, the project will contribute to the SDG 13 - Target 13.2: Integrate climate change measures into national policies, strategies and planning. This SDG outcome is measured in accordance with ACM0002 “Grid-connected electricity generation from renewable sources”, Version: 21.0 for the emission reductions generated by the project, ER_y (tCO₂e). Emission Reduction Emission Reduction is estimated as below: $ER_y = BE_y - PE_y$ Where: ER_y: Emission reduction (tCO₂e) BE_y: Baseline emission (tCO₂e) PE_y: Project emission (tCO₂e) <u>Baseline Emissions (BE_y)</u> As per para 47 and 49 of the applied methodology, Baseline emissions is calculated as follows: Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. It is calculated as shown below: $BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$ Where: BE_y = Baseline emissions in year y (tCO₂e/year) EG_{PJ,y} = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/year) EF_{grid,CM,y} = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of “TOOL07: Tool to calculate the emission factor for an electricity system” (tCO₂e/MWh) <u>Calculation of EG_{PJ,y}</u> The project activity is an installation of new grid-connected renewable energy power plant at a site where no renewable energy power plant was operated prior to the implementation of the project activity, then: $EG_{PJ,y} = EG_{facility,y}$ Where: EG_{PJ,y} = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/year) EG_{facility,y} = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/year) Therefore, the baseline emissions are to be calculated as follows: $BE_y = EG_{facility,y} \times EF_{grid,CM,y}$ PP has sourced the grid emission factor from the latest data published by Ministry of Energy Transition and Sustainable Development, which is a publicly available document on the ministry website/17/. As per the published document, the grid emission factor corresponding	

to the year 2020 and 2021 is available. The emission factor corresponding to the year 2020 (743.8 gCO₂/kWh or 0.7438 tCO₂/kWh) is lower as compared to the emission factor corresponding to the year 2021 (744.6 gCO₂/kWh), hence conservative and hence used in the emission reduction calculations.

Further the emission factor data has been published by Institute of Global Environmental Strategies (IGES) in March 2024/17/, which provide range of emission factors used by other similar projects. The emission factor (0.7438 tCO₂/kWh) falls under the range of emission factor published by the IGES, hence found acceptable.

Project Emissions

In accordance with methodology ACM0002, Version: 21.0, the project emissions are calculated using the equation given below:

$$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$$

Where:

- PE_y = Project emissions in year y (tCO₂e/yr)
- $PE_{FF,y}$ = Project emissions from fossil fuel consumption in year y (tCO₂e/yr)
- $PE_{GP,y}$ = Project emissions from the operation of dry, flash steam or binary geothermal power plants in year y (tCO₂e/yr)
- $PE_{HP,y}$ = Project emissions from water reservoirs of hydro power plants in year y (tCO₂e/yr)

The proposed project is a wind power plant that neither uses fossil fuel nor operates geothermal power plants or having water reservoirs (i.e. $PE_{FF,y} = 0$; $PE_{GP,y} = 0$; $PE_{HP,y} = 0$); therefore, the project emission is zero: $PE_y = 0$

Leakage Emissions

No other leakage emissions are considered. The emissions potentially arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, transport etc.) are neglected.

Validation team confirm that the methodological choices/approaches for estimating the SDG Impact have been clearly explained and found Ok.

Hence the Emission Reductions arrives as follows:

$$ER_y = BE_y - PE_y = 220,239 \text{ tCO}_2 - 0 = 220,239 \text{ tCO}_2$$

SDG 5 – Achieve gender equality and empower all women and girls

The project has equal opportunity for both men and women. The project has HR policy and same is followed equally. The project ensures participation of both men and women and they are benefitted based on pregnancy, maternity/paternity leave, or marital status.

Baseline Estimation: In the baseline scenario, there won't be any wind project. Hence, in the baseline scenario no new job opportunity for women.

Project Estimation: In the project scenario, proportion of women staff will be monitored.

$$\text{Net Benefit: Project Estimate} - \text{Baseline Estimate} = 2 - 0 = 2$$

SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all

The project produces electricity from wind which is clean electricity that is supplied to grid that improve renewable energy share in the grid. The clean energy supplied by the project is measured using the energy meter.

Baseline Estimation: In the baseline scenario no wind power plant has been installed in the project area. Hence no clean electricity is generated and supplied to grid

Project Estimation: The clean electricity generated from the project and supplied to grid is monitored through calibrated energy meter. The meter reading will be recorded every month in the joint meter reading

Net Benefit: Project estimate – Baseline estimate = 296,100 MWh – 0 MWh = 296,100 MWh

This SDG outcome is measured in principle with ACM0002 “Grid-connected electricity generation from renewable sources”, Version: 21.0 for the quantity of net electricity transmitted to the grid by the project ($EG_{\text{facility},y}$).

SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

This project created new job opportunities to local people in construction and operation and maintenance of the power plant. Also the employees will be trained in various aspects of wind energy power plant operation and maintenance that will help to explore new upcoming job opportunities

Baseline Estimation: In the baseline scenario there won't be any wind project. Hence, in the baseline scenario no new jobs would have been created and no training would have been conducted.

Project Estimation: The number jobs created will be recorded in the employment records. As and when a training is conducted to O&M staff, the same will be recorded into the training records.

Net Benefit: Project estimate – Baseline estimate = 10 Jobs, 1 Training – 0 = 10 Jobs, 1 Training

Summary of ex-ante estimates of each SDG Impact:

SDG13 (GHG Emission reduction):

As described in B.6, the emission reductions of the proposed project are calculated as follows:

Baseline emissions:

Annual generation of the wind farm is estimated at 296,100 MWh. The calculation equation is as follows

$$BE_y = 296,100 * 0.7438 = 220,239 \text{ tCO}_2/\text{year}$$

Project emissions:

As established in section B.6 the project emissions are null. $PE_y = 0$

Leakage emissions:

According to the baseline methodology ACM0002, the leakage of the Project is not considered. $LE_y = 0$

Net emission reductions of the Project = Total Baseline Emissions – Total Project Emissions

The total annual Baseline emissions are 220,239 tCO₂ per year.

The total annual Project emissions are 0 tCO₂.

The total annual Emission Reductions are 220,239 tCO₂ per year.

The SDG impacts are summarized as below:

SDG13 (GHG Emission reduction)

Year		Baseline estimate	Project estimate	Net benefit
Year 1 (01/05/2021 – 30/04/2022)		220,239	0	220,239
Year 2 (01/05/2022 – 30/04/2023)		220,239	0	220,239
Year 3 (01/05/2023 – 30/04/2024)		220,239	0	220,239
Year 4 (01/05/2024 – 30/04/2025)		220,239	0	220,239
Year 5 (01/05/2025 – 30/04/2026)		220,239	0	220,239
Total		1,101,195	0	1,101,195
Total number of crediting years	5			
Annual average over the crediting period	220,239	0	220,239	

SDG7 (Clean Electricity supplied to grid)

Year		Baseline estimate	Project estimate	Net benefit
Year 1 (01/05/2021 – 30/04/2022)		0	296,100	296,100
Year 2 (01/05/2022 – 30/04/2023)		0	296,100	296,100
Year 3 (01/05/2023 – 30/04/2024)		0	296,100	296,100
Year 4 (01/05/2024 – 30/04/2025)		0	296,100	296,100
Year 5 (01/05/2025 – 30/04/2026)		0	296,100	296,100
Total		0	1,480,500	1,480,500
Total number of crediting years	5			
Annual average over the crediting period	0	296,100	296,100	

	SDG8 (Jobs created, Trainings conducted)			
	Year	Baseline estimate	Project estimate	Net benefit
	Year 1 (01/05/2021 – 30/04/2022)	0	10 Jobs,1 Training	10 Jobs,1 Training
	Year 2 (01/05/2022 – 30/04/2023)	0	10 Jobs,1 Training	10 Jobs,1 Training
	Year 3 (01/05/2023 – 30/04/2024)	0	10 Jobs,1 Training	10 Jobs,1 Training
	Year 4 (01/05/2024 – 30/04/2025)	0	10 Jobs,1 Training	10 Jobs,1 Training
	Year 5 (01/05/2025 – 30/04/2026)	0	10 Jobs,1 Training	10 Jobs,1 Training
	Total	0	10 Jobs,1 Training¹	10 Jobs,1 Training
	Total number of crediting years	5		
	Annual average over the crediting period	0	10 Jobs,1 Training	10 Jobs,1 Training
	SDG5 (Number of Women Employee)			
	Year	Baseline estimate	Project estimate	Net benefit
	Year 1 (01/05/2021 – 30/04/2022)	0	2	2
	Year 2 (01/05/2022 – 30/04/2023)	0	2	2
	Year 3 (01/05/2023 – 30/04/2024)	0	2	2
	Year 4 (01/05/2024 – 30/04/2025)	0	2	2

¹ The 10 Jobs,1 Training shall be provided throughout the crediting period.

	Year 5 (01/05/2025 – 30/04/2026)	0	2	2
	Total	0	2 ²	10
	Total number of crediting years	5		
	Annual average over the crediting period	0	2	2
Validation team confirm that SDGs are in compliance with the GS4GG rules/requirements.				
Findings	CL 02, CAR03, CAR04 was raised and successfully closed. Refer Appendix 4 of this report for more details.			
Conclusion	The assessment team confirms that: a) The selection of the equations of the applied methodology is appropriate. b) The assumptions used by the project have been clearly referenced and listed in the PDD. c) The data included in the PDD has been adopted from authentic sources based on appropriate assumptions. d) Appropriate values are reasonably used relating to the project activity. e) The baseline methodology has been correctly applied for the calculation of emission reductions. f) The calculations are traceable and the values can be replicated using the data provided in the PDD.			

D.3.6. Monitoring of SDGs

Means of validation	The monitoring plan for the project activity is provided in Section B.7 of the GS PDD, based on the approved monitoring methodology. The monitoring plan is being correctly applied to the project activity and is in compliance with the requirements of the applied methodology. Parameters available at the time of validation (ex-ante) (mention under section B.6.2 of the GS PDD) are:				
	Relevant SDG Indicator	Parameter	Description	Unit	Value
	SDG13	EF _{grid,CM,y}	Combined margin CO ₂ emission factor for grid connected power generation in year y	tCO _{2e} /MWh	0.7438
		Justification for the applied value PP has sourced the grid emission factor from the latest data published by Ministry of Energy Transition and Sustainable Development, which is a publicly available document on the ministry website/17/. As per the			

² The minimum of 2 employees will be employed throughout the crediting period.

						published document, the grid emission factor corresponding to the year 2020 and 2021 is available. The emission factor corresponding to the year 2020 (743.8 gCO₂/kWh or 0.7438 tCO₂/kWh) is lower as compared to the emission factor corresponding to the year 2021 (744.6 gCO₂/kWh), hence conservative and hence used in the emission reduction calculations. Further the emission factor data has been published by Institute of Global Environmental Strategies (IGES) in March 2024/17/, which provide range of emission factors used by other similar projects. The emission factor (0.7438 tCO₂/kWh) falls under the range of emission factor published by the IGES, hence found acceptable. Validation team has checked the source of the data and found correct. This ex-ante parameter is fixed ex-ante for the 2nd crediting
--	--	--	--	--	--	---

					period. This ex-ante parameter is used for Baseline emission.
	Parameters that will be monitored (ex-post) (Mention under section B.7.1 of the GS PDD) are:				
	Relevant SDG Indicator	Parameter	Description	Unit	Monitoring
SDG 13: Climate Action	13:	ERy	Emission reductions are calculated as the difference between baseline emissions, project emissions and leakage emissions. Since, leakage emissions are neglected and thus, emission reductions= $ERy = BEy - PEy$ Where: ERy (Emission reductions in year y) (tCO₂e/yr) BEy (Baseline emissions in year y) (tCO₂e/yr) PEy (Project emissions in year y) (tCO₂e/yr) The expected emission reductions are 220,239 tCO₂/year.	tCO ₂ e/year	The monitoring parameter would be calculated once per monitoring period. Cross-checking with electricity data. Validation team has found the monitoring parameter correct.
SDG 5: Gender Equality	5	Number of women employees	Number of women employees are expected to be 2 person per year	Number	The monitoring parameter will be checked from Payroll System, Attendance Register on annual basis.

					Validation team has checked the monitoring parameter and found correct.
	SDG 7 Affordable and Clean Energy	$EG_{P,J,y}$	Quantity of net electricity generation supplied by the Project activity to the grid are expected as 296,100 MWh/year	MWh/year	Calculated as the power output of the power plant to the national grid minus the electricity input that the project receives from the national grid. Net Annual Electricity Generation: $EG_{\text{export},y} - EG_{\text{import},y}$ The energy meters will be installed at the interconnection point so as to measure the amount of electricity produced and supplied to the grid by the project (export) and the amount of electricity delivered to the project (import). The net electricity output will be the difference between the export and the import and will be calculated monthly. The electricity export and import will be continuous measured and monthly recording. Data on electricity can be verified with

					invoices raised by the project proponent to ONEE. Also, the energy meters will be calibrated as per the relevant standard requirements. Validation team has found the monitoring parameter in accordance to the applied methodology.
	SDG 8 Decent Work and Economic Growth	Jobs created, Trainings conducted	The number of Jobs created, Trainings conducted are expected to be 10 Jobs, 1 Training	Number	The monitoring parameter will be checked from records of list of personnel employed, Training Certificate & Attendance Sheet The monitoring parameter will be checked from Employment contracts and HR Employment Record once per year. Validation team has checked the monitoring parameter and found correct CSR activities and keep the track of ongoing activities on annual basis. Validation team has checked the monitoring parameter and found correct.

	Validation team has also checked the other elements of the monitoring plan mentioned under section B.7.3 of the GS PDD and found Ok. Validation team has checked the data collection and archiving process and found Ok. The same was also discussed during the remote interviews. It can be concluded that the monitoring plan has provisions for the real measurement of the parameter to reach to the achieved emission reductions. After an intensive document review of the PDD and remote audit assessment by interviews with representatives about the monitoring procedures and structure, the validation team confirms that verification of emission reductions would be feasible. Also quality assurance and quality control procedures identified in the PDD will lead to accuracy and lesser uncertainty. <u>Sampling Plan:</u> No sampling is applicable in the monitoring.
Findings	CAR 05 was raised and successfully closed. Refer Appendix 4 of this report for more details.
Conclusion	The assessment team confirms that the monitoring plan: a) Is in compliance with the requirements stated in the applied approved monitoring methodology. b) Is feasible and can be implemented in the case of the project activity. c) Can be implemented by the project participant.

D.4. Start date, crediting period type and duration

Means of validation	The project was registered under the CDM initially with the crediting period 01/05/2014 to 30/04/2021. The project has transitioned to Gold Standard with the approved Transition Annex in past. Under the Gold Standard, the 2 nd crediting period of 01/05/2021 to 30/04/2026 has been considered and of the duration of 5 years.
Findings	No findings raised.
Conclusion	Validation team confirm that start date and crediting period start date have been chosen correctly according to the GS4GG requirements. Also the chosen crediting period is as per the GS4GG requirements.

D.5. Local stakeholder consultation

Means of validation	The stakeholder consultation meeting was conducted through organizing the workshop on 02/02/2012 on the project activities with concerned stakeholders including local authorities, population elected bodies, experts, local associations, etc. In total over 30 stakeholders attended this workshop/18/. The stakeholders were invited by means of an official letter to participate in this consultation workshop. A press release was also published on a nationwide daily newspaper/18/. The workshop started with presentations focused on the achievements and prospects of the CDM in Morocco and on the project technical characteristics, operational activities, implementation phases and its CDM development. The results of the project's environmental impacts were also presented during the workshop. Participants were invited to express their views and ask questions or to request clarifications to the workshop presenters and a debate and discussion followed. No negative comments were raised during the stakeholder consultation process. The registered PDD and Validation Report/18/ has been checked and confirmed on the same. Further the project also has sufficient measures to take into account the stakeholder comments in future, which was confirmed during the remote audit.
Findings	No findings raised
Conclusion	The remote audit interview with the stakeholder was undertaken and it can be confirmed that the project proponent takes into account the feedback of local people and no negative comments were received for the project activity.

	Further the project has a documented Stakeholder Engagement Plan that provides provision to take into account the stakeholder comments in future. The Grievance Register of previous years have been checked and found that stakeholders comments were received in past. Further most of the stakeholder comments have been addressed, while rest of them are in process. Hence it is confirmed that stakeholder comments will be taken into account during the entire period of the crediting period.
--	--

D.6. Safeguarding Principles Assessment

Means of validation	PP has done the safeguarding principles assessment analysis and presented assessment in the GS PDD. The assessment has been performed in accordance to requirements prescribed in the GS4GG Principles & Requirements, version 1.2 & Safeguarding Principles & Requirements, version 1.2. The justification provided in the PDD has been found appropriate based on the sectoral expertise of the validation team. During the remote audit, it was confirmed that project owner has implemented various environmental and social management and monitoring plan for the project activity. Further there are various documented procedures/plan/11/ for the project activity as follows: - Environmental and Social Action Plan - Health, Safety and Environment Management Plan - Integrated Waste Management Plan - Assessment of the impact of cast shadow - Biodiversity Protection Plan - Social Impact Assessment Further the representatives of the project activity were interviewed and the sufficiency of provisions of the safeguarding principles was confirmed.
Findings	No findings raised.
Conclusion	Validation team has carried out Google meet interviews to cross check the safeguarding principle assessment (social, economic, environmental) conducted by the project owner. GS VVB has also reviewed the GS4GG PDD (Appendix 1 – Safeguarding Principles Assessment) and found that the PD has assessed all the required critical safeguarding principle correctly. It has been found that the PA fulfil all the principles like Human Rights, Labor standards, environment protection and anti-corruption. Further that project owner has implemented various environmental and social management and monitoring plan/11/ for the project activity, which is found sufficient for the safeguarding principles assessment.

D.7. Stakeholder Inputs & Grievance Mechanism

Means of validation	Discussion of continuous input /grievance mechanism: As part of the grievance mechanism in place, the local stakeholders are encouraged to approach the PP through following avenues i.e. in-person, e-mail and telephone to express their grievance, if any. The project proponent informed the users about the input and grievance mechanism. They were informed about the maintenance of a grievance expression book which would be maintained to have a continuous account of stakeholder's feedback, which was confirmed during the remote audit. Grievance Expression Process Book have been located at office of PP and O&M site office at project location. Office is at appropriate publicly accessible location
----------------------------	--

	where local stakeholders can provide their feedback about the project. Validation team has confirmed the continuous grievance mechanism from the remote interviews of the stakeholders and supportive /12/. Further the project has a documented Stakeholder Engagement Plan/12/ that provides provision to take into account the stakeholder comments in future. The Grievance Register of previous years have been checked and found that stakeholders comments were received in past. Further most of the stakeholder comments have been addressed, while rest of them are in process. Hence it is confirmed that stakeholder comments will be taken into account during the entire period of the crediting period.
Findings	No finding raised.
Conclusion	Validation team has checked the corresponding documents /22/ and found OK. The validation team confirms that the project activity meets the Gold Standard requirements for stakeholder feedback/ grievance mechanism.

SECTION E. Internal quality control

>>

The validation report prepared by team leader is reviewed by an independent technical reviewer (having competence of relevant technical area himself/herself or through an independent technical area expert) to confirm the internal procedures established by 4KES are duly followed and the validation report/opinion is reached in an objective manner and complies with the applicable CDM requirements.

The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the validation team. The independent technical reviewer(s) may approve or reject the draft validation report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before submit final report to GS. The final approval decision is taken by the Head of the DOE/Director.

The final decision is authorized by the Director, 4KES, once the report is finalized by the Head of the DOE/DOE Manager.

SECTION F. Validation opinion

>>

4K Earth Science Private Limited has been contracted by 'Numerco Limited' to perform a validation of the renewal of the crediting period of GS project 'Jbel Sendouq-Khalladi Wind Farm Project in Morocco' (GS5073).

The validation was performed in accordance with the GS4GG in conjunction with UNFCCC criteria for the Clean Development Mechanism, latest version of Validation and Verification Standard for Project Activities and related Standards/Guidance and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change. In our opinion, the project meets all relevant UNFCCC, GS & CDM criteria and all relevant host country criteria.

The review of the project design documentation and the subsequent follow-up interviews have provided validation team with sufficient evidence to validate the project. The project design document /01/ correctly applies methodology /02/.

Project activity will result in saving of 220,239 tCO₂e (on annual average) and total of 1,101,195 tCO₂e during the second crediting period from 01/05/2021 to 30/04/2026 (both days included). The emission reduction forecast has been checked and it is deemed likely that the stated amount is achievable given the underlying assumptions do not change.

The monitoring plan provides for the monitoring of the SDG impact. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is validation team's opinion that the project participants are able to implement the monitoring plan. The estimated SDGs have been checked and found Ok. During the project verification SDGs would be verified.

SDG 13: GHG Emission reduction of 220,239 tCO_{2e}/year

SDG 5: 2 women employees employed per annum

SDG7: Clean electricity generation of 296,100 MWh per annum

SDG 8: 10 Jobs, 1 Training generated during the crediting period

In summary, it is validation team's opinion that the project activity "Jbel Sendouq-Khalladi Wind Farm Project in Morocco" meets all relevant GS4GG & UNFCCC requirements. Hence, 4KES requests for the registration of the project activity under GS4GG.

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emission
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction(s)
CL	Clarification request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CP	Commitment Period
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission factor
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG	Gold standard for global goals
MP	Monitoring Plan
PP	Project Participant
SDG	Sustainable development goal
UNFCCC	United Nations Framework Convention on Climate Change

Appendix 2. Competence of team members and technical reviewers

Certificate of Competence						
Name	☒ Mr. ☐ Ms.	Narendra Kumar. R				
Qualification Procedure	Fulfills the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GCC/GHG Projects.					
Appointed to work as:						
	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
<i>Appointed</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Appointed Date</i>	15-07-2023					
Authorized to work as Technical Expert for:						
<i>Authorized Technical Area</i>	Sectoral Scope	TA Code		Technical Area within the scope		
	Energy industries (renewable - / non-renewable sources)	1.1		Thermal energy generation		
	Energy industries (renewable - / non-renewable sources)	1.2		Renewables		
	Energy demand	3.1		Energy demand		
	Waste handling and disposal	13.1		Solid waste and wastewater		
	Waste handling and disposal	13.2		Manure		
Authorized to work as Local Expert for:						
<i>Country/Countries</i>	India					

Compliance check by: Swati S Acharya	
---	--

<u>Certificate of Competence</u>						
Name	☐ Mr. ☒ Ms.	Swati S Acharya				
Qualification Procedure	Fulfil the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GCC/GHG Projects.					
Appointed to work as:						
	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
<i>Appointed</i>	Yes	No	Yes	Yes	No	No
<i>Appointed Date</i>	15/07/2023					
Authorized to work as Technical Expert for:						
<i>Authorized Technical Area</i>	Sectoral Scope		TA Code	Technical Area within the scope		
	Energy industries (renewable - / non-renewable sources)		1.2	Renewables		
Authorized to work as Local Expert for:						
<i>Country/Countries</i>	India					
Compliance check by: Anand S. R.						

<u>Certificate of Competence</u>						
Name	☒ Mr. ☐ Ms.	Ma Paa Puratchikkanal				
Qualification Procedure	Fulfil the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.					
Appointed to work as:						
	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
<i>Appointed</i>	Yes	Yes	Yes	Yes	Yes	No
<i>Appointed Date</i>	27-04-2021					
Authorized to work as Technical Expert for:						
<i>Authorized Technical Area</i>	Sectoral Scope		TA Code	Technical Area within the scope		
	Energy industries (renewable - / non-renewable sources)		1.1	Thermal energy generation		
	Energy industries (renewable - / non-renewable sources)		1.2	Renewables		
	Energy demand		3.1	Energy demand		
	Construction		6.1	Construction		
	Waste handling and disposal		13.1	Solid waste and wastewater		
	Waste handling and disposal		13.2	Manure		
	Agriculture		15.1	Agriculture		
Authorized to work as Local Expert for:						
<i>Country/Countries</i>	India, Sri Lanka					
Compliance check by: Anand S. R.						

Appendix 3. Documents reviewed or referenced

No	Title	References to the document
1.	GS Project Design Document (initial) GS Project Design Document (final) GS ER & IRR Calculation Sheet	Version 1.1, dated 26/04/2024 Version 1.2, dated 24/03/2025 Version 1.1
2.	Methodology applied: ACM0002 - Grid-connected electricity generation from renewable sources (version 21.0)	-
3.	General specifications of the Wind Turbines Metering Protocol	-
4.	Service & Availability Agreement for the project activity	07/09/2015
5.	Power Purchase Agreements between ACWA Power Khalladi S.A. and Ciments de l'Atlas Power Purchase Agreements between ACWA Power Khalladi S.A. and Compagnie Industrielle Des Fibres Power Purchase Agreements between ACWA Power Khalladi S.A. and SNEP S.A Power Purchase Agreements between ACWA Power Khalladi S.A. and Fonex Aluminium	December 2018 September 2019 May 2018 February 2021
6.	Commercial Operation Certificate of Wind Power Plant SCADA Test of Completion Certificate	27/07/2016 29/06/2018
7.	Operation and Maintenance Agreement for the project activity	18/02/2016
8.	ONEE Monthly Statement Metering Report to ACWA Power Khalladi for November 2023 ONEE Monthly Statement Metering Report to ACWA Power Khalladi for November 2023	01/12/2023 01/01/2024
9.	Electricity Meter Verification Reports by ONEE Electricity Meter Verification Reports by ONEE Electricity Meter Verification Reports by ONEE	20/04/2019 06/05/2021 17/10/2022
10.	Project site and Wind Turbine Photographs Electricity Meter Photographs with their serial number	
11.	Environmental and social management and monitoring plan for the project activity Environmental and Social Action Plan Health, Safety and Environment Management Plan Integrated Waste Management Plan	December 2015 August 2015 10/04/2016

	Assessment of the impact of cast shadow Biodiversity Protection Plan Social Impact Assessment	April 2015 August 2015 August 2015
12.	Stakeholder Engagement Plan Review of Land Acquisitions and Livelihood Restoration Grievance Register (previous years)	August 2015 August 2015
13.	CSR Program & Plan (Initiatives & Assessment)	
14.	Khalladi HSSE Activities	
15.	Organizational Chart for the project	
16.	Training record of previous years	
17.	Emission Factor published by Ministry of Energy Transition Morocco https://www.mem.gov.ma/Pages/rapports.aspx https://www.mem.gov.ma/Lists/Lst_rapports/Attachments/39/Chiffres%20cl%C3%A9s%20annuels%20de%20l%C3%A9nergie.pdf <u>Chiffres clés annuels de l'énergie english-French</u> Emission Factor published by IGES https://www.iges.or.jp/en/pub/list-grid-emission-factor/en?_ga=2.199678381.2094852245.1712211788-676649930.1712211788 IGES_GRID_EF_v11.4_20240310 (Excelsheet)	
18.	Registered and previous Issuance documents of the project activity	
19.	CDM Project Standard for project activities CDM Validation and Verification Standard for project activities	Version 03.0 Version 03.0
20.	Gold standard Principles and Requirements, version 1.2	-
21.	Project design document form (GS-PDD) https://globalgoals.goldstandard.org/t-prereview-design-document/	Version 1.2
22.	Renewable Energy Activity Requirements, version 1.4	-
23.	CDM Website https://cdm.unfccc.int/Projects/projsearch.html https://cdm.unfccc.int/Projects/Validation/index.html	-
24.	Verra Registry https://registry.verra.org/app/search/VCS/All%20Projects	-
25.	Tool to calculate the emission factor, Version 07.0	TOOL 07
26.	Methodological 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 Methodological Tool: Tool to determine the remaining lifetime of equipment, version 01	TOOL 11 TOOL 10
27.	https://www.latlong.net/	
28.	Internal Energy Agency https://www.iea.org/countries/morocco/energy-mix International Renewable Energy Agency (IRENA)	

	https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Morocco_Africa_RE_S_P.pdf	
--	---	--

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

CL ID	01	Section no.	Section B.4 of PDD	Date: 25/04/2024
Description of CL				
PDD (Section B.4): During the renewal of the crediting period of PDD, PP has not applied the following Tool in order to arrive at the baseline scenario:				
<i>Methodological Tool: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period”, version 3.0.1</i>				
https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-11-v3.0.1.pdf				
Check and additional information be provided inline with the above Tool.				
Project participant response				Date: 26/04/2024
The “Methodological Tool: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period”, version 3.0.1 has now applied in the PDD.				
Documentation provided by project participant				
Revised PDD				
DOE assessment				Date: 27/04/2024
The “Methodological Tool: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period”, version 3.0.1 has now applied in the PDD. The relevant data/sources have been referred in order to demonstrate the validity of the current baseline, which is found appropriate. Hence the comment is closed.				

CL ID	02	Section no.	Section B.6.4 of PDD	Date: 25/04/2024
Description of CL				
PDD (Section B.6.4): The summary for ex-ante estimates have only been provided for the SDG13, however no such summary have been provided for the other SDGs. Check and additional details be provided in this regard.				
Project participant response				Date: 26/04/2024
The summary of ex-ante estimates are now provided for all the SDGs in the revised PDD.				
Documentation provided by project participant				
Revised PDD				
DOE assessment				Date: 27/04/2024
Project participant response				
The summary of ex-ante estimates are now provided for all the SDGs in the revised PDD and found correct. The comment is closed.				

Table 2. CAR from this validation

CAR ID	01	Section no.	PDD	Date: 25/04/2024
Description of CAR				
It has been observed that some of the sections of the PDD not filled following the GS PDD filling guidelines (Guide to completing the form) as available on the GS website. Check and the update the PDD following the PDD filling guidelines.				

Project participant response		Date: 26/04/2024
The PDD is now filled as per the PDD filling guidelines.		
Documentation provided by project participant		
Revised PDD		
DOE assessment		Date: 27/04/2024
The PDD has now updated as per the requirements of the PDD filling guidelines, which is found appropriate. Hence the comment is closed.		

CAR ID	02	Section no.	Section B.2 of PDD	Date: 25/04/2024
Description of CAR				
PDD (Section B.2): The applicability criteria discussed in Section B.2 are not exactly inline with the applicability criteria as available in the latest version of applied methodology (ACM0002, version 21). Check and appropriate revisions may be provided in the PDD.				
Project participant response				Date: 26/04/2024
The applicability criteria updated inline with the latest version of the applied methodology (ACM0002, version 21)				
Documentation provided by project participant				
Revised PDD				
DOE assessment				Date: 27/04/2024
All the applicability criteria of the applied methodology has been updated as per the requirements of the latest version of applied methodology (ACM0002, version 21) in the PDD, which is found appropriate. Hence the comment is closed.				

CAR ID	03	Section no.	Section B.6, B.6.1 of PDD	Date: 25/04/2024
Description of CAR				
PDD (Section B.6, Section B.6.1): The proposed SDG Impact indicators/parameters in Section B.6 & B.6.1 does not match with the description as provided in the Table 1 of PDD. Check.				
Project participant response				Date: 26/04/2024
The SDG Impact indicators/parameters are now consistent in the PDD.				
Documentation provided by project participant				
Revised PDD				
DOE assessment				Date: 27/04/2024
The proposed SDG Impact indicators/parameters in Section B.6 & B.6.1 match with the description as provided in the Table 1 of PDD and found appropriate. The comment is closed.				

CAR ID	04	Section no.	Section B.6.3, B.6.4 of PDD	Date: 25/04/2024
Description of CAR				
PDD (Section B.6.3, B.6.4): The calculation formula of Net Impact is provided as "(Baseline – Project) Estimate", which does not look correct since the Net Impact of SDG7 & SDG3 & SDG5 has been calculated as "(Project – Baseline) Estimate". Check on the differences observed.				
For the SDG13, the Baseline estimate is "1,101,195 tCO ₂ ", Project estimate is "0", however the Net benefit is provided as "719,800 tCO ₂ ", which does not look logical. Check.				
Project participant response				Date: 26/04/2024
The correct calculation of the emission reductions are presented in the PDD.				
Documentation provided by project participant				
Revised PDD				
DOE assessment				Date: 27/04/2024
The correct formula for the calculation of SDGs are now applied in the PDD and found appropriate. The comment is now closed.				

CAR ID	05	Section no.	Section B.7.1 of PDD	Date: 25/04/2024
Description of CAR				
PDD (Section B.7.1): The data/parameter defined in the Section B.7.1 does not correlate with the indicators defined in the Table 1 of PDD. Check.				
Project participant response				Date: 26/04/2024
The correct description of data/parameters now provided in the Section B.7.1.				
Documentation provided by project participant				
Revised PDD				
DOE assessment				Date: 27/04/2024
The data/parameter in Section B.7.1 now consistent with the indicators defined in the Table 1 of the PDD and found appropriate. The comment is closed.				

Table 3. FAR from this validation

No FAR is raised during this validation

FAR ID	xx	Section no.		Date: DD/MM/YYYY
Description of FAR				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY