



Verification and certification report for GS4GG project activities

(Gold Standard for the Global Goals)

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

VERIFICATION AND CERTIFICATION REPORT

Title of the project activity	Sapphire 49.5 MW Wind Farm Project
Reference number of the project activity	GS11307
Version number of the verification and certification report	02
Completion date of the verification and certification report	05/09/2022
Monitoring period number and duration of this monitoring period	MP number: 1 st MP dates: 02/08/2019 to 31/12/2020 (both days included)
Version number of monitoring report to which this report applies	2.1
Crediting period of the project activity corresponding to this monitoring period	02/08/2019 to 01/08/2024 (both days included)
Project Representative	UPM Umwelt-Projekt-Management GmbH
Project Participants and any communities involved	Sapphire Wind Power Co. Ltd. UPM Umwelt-Projekt-Management GmbH
Host Party	Islamic Republic of Pakistan
Activity Requirements applied	☐ Community Services Activities ☒ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Methodology (ies) applied and version number	ACM0002 "Grid-connected electricity generation from renewable sources" (Version 20.0)
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
SDG Contributions targeted (as per approved PDD)	Goal 7: Affordable and Clean Energy Goal 8: Decent work and economic growth Goal 13: Climate Action
Estimated amount of certified SDG	SDG 7 - Net amount of electricity supplied to grid: 137,500 MWh/year, the duration of monitoring

impact (as per approved PDD)	period is 518 days, therefore, the net amount of electricity supplied to grid ex ante estimated as per the PDD for this monitoring period is calculated as: 195,136MWh (= 137,500MWh *518 days/ 365 days) SDG 8 - Number of jobs created: 20/year SDG 13 – GS CERs: 61,998 tCO₂e/year, the duration of monitoring period is 518 days, therefore, the emission reductions estimated as per the PDD for this monitoring period are calculated as: 87,986tCO₂e (= 61,998tCO₂e *518 days/ 365 days)
Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period	SDG 7 - From 02/08/2019 to 31/12/2019, the net amount of electricity supplied to grid is: 23,592.06MWh. From 01/01/2020 to 31/12/2020, the net amount of electricity supplied to grid is: 87,257.13MWh. In the 1st monitoring period from 02/08/2019 to 31/12/2020, the net amount of electricity supplied to grid is: 110,849.20MWh. SDG 8 – From 02/08/2019 to 31/12/2019, the number of jobs created is 20. From 01/01/2020 to 31/12/2020, the number of jobs created is 20. In the 1st monitoring period from 02/08/2019 to 31/12/2020, the number of jobs created is 20. SDG 13 – GHG emission Reductions (GS CER) 02/08/2019-31/12/2019 : 13,393 tCO₂e 01/01/2020-31/12/2020 : 39,344 tCO₂e Total 1st monitoring period from 02/08/2019 to 31/12/2020: 52,737 tCO₂e
Name of VVB	VVB Name: Shenzhen CTI International Certification Co., Ltd (CTI)
Name, position and signature of the approver of the verification and certification report	 Liu Jia Technical Reviewer/Approver

SECTION A. Executive summary

The project activity is utilizing wind power for electricity generation, which is delivered to Water and Power Development Authority (WAPDA) Grid. The project activity involves installation of 33 sets wind turbines with unit capacity of 1.6MW and the total installation capacity is 52.8MW. The electricity generated by the project is exported to WAPDA grid after transmitted to the transformers.

The project activity uses renewable wind energy to generate electricity displacing fossil fuel dominated electricity generation in WAPDA grid and thus resulting in greenhouse gases emission reductions and provides the affordable and clean Energy in Pakistan.

The Project (Project ID GS11307) has been registered as a CDM project on 14/11/2012 (UNFCCC Reference Number 8163). The crediting period is 22/11/2015 – 21/11/2025 (Fixed) under CDM by checking the dedicated link/38/. The project has been registered under GS4GG on 04/02/2022, the crediting period of the project under GS4GG is from 02/08/2019 to 01/08/2024.

The project started construction on 28/08/2014 which is confirmed as correct by checking the Letter of Notice to proceed/10/ and was commissioned on 22/11/2015, which has been confirmed by checking daily operational log/17/ against the Certificate of Commissioning of Complex to the project/11/ and previous CDM verification report/6/.

The estimated emission reduction from the project is 61,998 tCO₂e/3/ per year during the first renewable 5-year crediting period and the certified emissions reduction for the current monitoring period from 02/08/2019 to 31/12/2020 is 52,737 tCO₂e/2/.

Scope of Verification

This verification is a periodic independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the VVB. The verification addresses the implementation and operation of the GS PA and tests the data and assertions set out in the monitoring report based on the following:

- (i) The registered CDM PDD/4/
- (ii) The registered GS4GG PDD with SDG monitoring plan/3/
- (iii) The approved methodology mentioned in the PDD, ACM0002 “Grid-connected electricity generation from renewable sources” (Version 20.0)/28/
- (iv) the Gold Standard for the Global Goals Principles and Requirements/30/,
- (v) the Gold Standard for the Global Goals Safeguarding Principles & Requirements/31/,
- (vi) the Gold Standard for the Global Goals Renewable Energy Activity Requirements/32/,
- (vii) the Gold Standard for the Global Goals Stakeholder Consultation and Engagement Requirements/33/,
- (viii) Validation and Verification Body requirements, Product requirements and references relevant to the project activity’s reported emission reductions,
- (ix) Any other decisions taken by the Technical Advisory Committee of GS (GS-TAC),
- (x) other relevant rules, including the host country legislation

The verification has considered both quantitative and qualitative aspects on stated/reported emission reductions. The monitoring report (all versions) and corresponding supporting documentation was assessed in accordance with the rules defined by UNFCCC, as appropriate to the PA. The verification is not meant to provide any consulting or recommendations to the PP/others. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

Verification process

The verification has been performed as described in the Gold Standard for the Global Goals Principles and Requirements/30/, CDM validation and verification standard for project activities (version 03.0)/36/

- a) Desk review of the GS4GG MR (version 01 dated 07/04/2022)/1/ and the relevant documents
- b) Remote verification (11/04/2022) conducting video conference call, checking the photo and video of the project site and monitoring equipment, interview with the representatives of the project developer,
- c) Issuance of draft verification report & verification protocol
- d) Desk review of the GS4GG MR and related documents
- e) Resolution of the raised CAR
- f) Issuance of the final verification report
- g) Independent technical review of the draft verification report and final/revised documentation (e.g., GS4GG Monitoring Report, corresponding ER sheet and evidences)
- h) Reporting and closure of TR comments/findings and final approval for the decision made
- i) Issuance of final verification report to contracted PP (or authorized representatives) and submission of request for issuance, as appropriate.

Conclusion

CTI has performed the verification of the GS PA “Sapphire 49.5 MW Wind Farm Project” having GS Ref. Number GS11307 for the monitoring period 02/08/2019 to 31/12/2020. The verified emission reductions amount to 52,737 tCO₂e in the 1st GS monitoring period.

The technical parameters of the wind turbine generators are consistent with the registered PDD/3/, also consistent with the Equipment technical specification/27/ and the monitoring equipment installed and measured monitoring parameters in line with the registered monitoring plan/3/.

In CTI’s opinion, the GHG emission reductions reported for the project in the GS4GG 1st monitoring report are fairly stated. It is confirmed that each SDG Impacts were calculated correctly on the basis of the approved monitoring methodologies ACM0002. ver. 20.0/28/, the monitoring plan contained in the GS4GG PDD (Version 3.2 dated 17/03/2022)/3/.

CTI confirms that each SDG Impacts are calculated without material misstatements. Based on the evidence and information that are considered necessary to guarantee that each SDG Impacts are appropriately calculated, CTI is able to certify that each SDG Impacts from the project “**Sapphire 49.5 MW Wind Farm Project**” during the indicated monitoring period.

SECTION B. Verification team, technical reviewer and approver

B.1. Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)	Involvement in			
						Desk/document review	Remote verification	Interviews	Validation findings
1.	Team Leader & Verifier	IR	Du	Wenjun	CTI	√	√	√	√
2.	Local Expert	EI	Atif ¹	Ahmad Khan	-		√	√	

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of VVB or outsourced entity)
1.	Technical reviewer/ Approver	IR	Liu	Jia	CTI

¹ Mr. Atif Ahmad Khan is Managing Partner of Arch Associates, with its office located in Karachi, Pakistan to environment and sustainability work in Pakistan. He has rich experiences in Renewable energy (Wind and Solar), Engineering, Foods, Agriculture, etc. He has been engaged by UNDP for woody biomass-based power generation technologies and calculations of Green House Gases (GHG) emission reduction potential. He has organized local stakeholder consultation for several wind power Gold Standard projects in Pakistan. Mr. Atif Ahmad Khan holds a MSc in Environmental Sciences. He is good at English and Urdu language. Hence, he is competent as the local expert.

SECTION C. Application of materiality

C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Human error in the quantification of emissions	Low	Human error is likely to occur if personnel are unfamiliar with, or not well trained regarding, emissions processes or data recording	Depending on the monitoring period being verified, conduct increased verifying during the months when there is a greater likelihood of errors and issues with data quality control due to project participants' leave schedules
2.	Undue reliance on a poorly designed information system, which may have few effective quality controls	Low	Use of spreadsheets without adequate controls related to data changes/updates, version tracking, traceability, security	Depending on how data is generated, processed, and reported, place greater emphasis on verifying data captured and processed manually and/or in spreadsheets versus those that are generated from an automated system
3.	Omissions and misstatements in data transfer from hand written notes into digital Excel ER spreadsheet	Medium	Ineffective quality control of data transfer due to unclear QA/QC procedure	Check QM procedure/manual. PP may demonstrate how to transfer data and how this is crosschecked. Conduct interview with related personnel whether procedure is actually conducted but not adequately described.

On the basis of the risk analysis the verification has been planned. A detailed audit/verification plan has been prepared and submitted to the project participant(s) in due time before the remote verification.

C.2. Consideration of materiality in conducting the verification

The errors identified in the project are below the threshold limit of materiality and hence not material. The GHG emission reductions are calculated without material misstatements.

SECTION D. Means of verification

D.1. Desk/document review

Desk review of all documents provided by PP and publicly available documents relevant for the verification including monitoring plan, monitoring report, monitoring methodology, project design document, applicable tools in particular attention to the frequency of measurements, QA/QC procedures and other relevant documents was conducted by CTI.

The main documents are listed below:

- (i) the GS4GG Monitoring Report Version 01 dated 07/04/2022/1/
- (ii) the registered CDM PDD/4/,
- (iii) the registered SDG monitoring plan in the registered GS4GG PDD of this project/3/
- (iv) the last revision of the CDM validation report/5/,
- (v) the last revision of the GS validation report/7/,
- (vi) the documentation of previous CDM verifications/6/,
- (vii) the emission reduction calculation spreadsheet/2/.

Other supporting documents, such as publicly available information on the UNFCCC website and SustainCert APP and background information were also reviewed.

The list of documents reviewed during the verification is provided under Appendix 3 of this report.

D.2. Remote verification

Duration of remote verification ² : 11/04/2022				
No.	Activity performed	Site location	Date	Team member
1.	Opening meeting	N/A	11/04/2022	Wenjun Du Atif Ahmad Khan
2	Interview with PP Representative and Operation Staff via conference call meeting APP and check project site, monitoring equipment via videos and photos	N/A	11/04/2022	Wenjun Du Atif Ahmad Khan
3	Documents check as per doc's list in Appendix 3.	N/A	11/04/2022	Wenjun Du Atif Ahmad Khan
4	Finding Summary	N/A	11/04/2022	Wenjun Du Atif Ahmad Khan
5	Close Meeting Introduce following procedures after remote validation	N/A	11/04/2022	Wenjun Du Atif Ahmad Khan

According to the section 4.1.1 b of COVID 19: INTERIM MEASURES/34/ issued by GS, if a site visit can't be postponed due to significant impact of delaying the site visit on project developer due to commitment as per GS-VERs delivery agreement, VVB can replace mandatory on-site visits with remote audits, and this interim measure is valid until 30/06/2022.

In accordance with the requirement by GS, the reasons that the site visit cannot be postponed are justified as follow:

As the requested by PP, the site visit cannot be postponed due to the business reason. Via checking the Purchase Order issued on 07/08/2021/24/ by ER buyer to the project owner, it is confirmed that buyer request the GS CER from year 2019 to 2020 of this project to be delivered before 15/07/2022, to avoid the risk on the GS CERs delivery delay before deadline, PP commissioned CTI to start the verification in April 2022 and the site visit is not available for CTI to conduct the case in Pakistan during this period, due to CTI is the VVB from China who has been

² CTI use remote verification method to replace on-site inspection which has been demonstrate in the table below.

commissioned by PP. As the result of the COVID-19 pandemic, the authority of Pakistan has taken preventive measures for foreigners i.e. suspension of visa exemption policy and visa on arrival, a health certificate and insurance requested for visa application, self-isolate regulation and reduction of flights, etc. Thus, CTI cannot ensure site visit to be on scheduled.

So CTI replace mandatory site visit verification with remote audits. The site visit was not conducted by the verification team, and the below alternatives have been conducted by the verification team as remote audit in line with the requirements from COVID 19: INTERIM MEASURES/34/.

1. The verification team including local Expert used video conference call conducting the opening meeting.
2. The verification team including local Expert used video conference call checking the project site, main equipment and project implementation, monitoring equipment, etc. via videos and photos/25/.
3. The verification team including local Expert interviewed representatives of project owner and staffs, project owner introduced the operation of the project and monitoring system.
4. The verification team including local Expert discussed the document evidence with project owner based on desk review results.
5. The team discussed findings and conducted close meeting via phone call with project representative and project owner.

In conclusion, although the site visit was not conducted by CTI, through interview call and checking the related videos and photos/25/, the requested information for the verification is got by CTI successfully and can be assessed by CTI to finish the verification.

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Shabbir	Aqsa	Sapphire Wind Power Co. Ltd. / Assistant Executive	11/04/2022	- General aspects of the project - Changes since validation / previous verifications in CDM scheme - Project Design - Project started construction time - Project started operation time - Project Equipment - Monitoring plan - Monitoring Equipment	Wenjun Du Atif Ahmad Khan
2.	Naeem	Fahd	Sapphire Wind Power Co. Ltd. / Assistant Manager	11/04/2022	- Project Technical process - Equipment Technical parameters - Local Wind sources	Wenjun Du Atif Ahmad Khan
3.	Siddiqui	Jawad	Sapphire Wind Power Co. Ltd. / General Manager	11/04/2022	- Actual Electricity generation and supplied to the grid - National Grid composition - Grid connection approach - Energy Purchase Agreement - Project implementation status - Quality management system - Involved personnel and responsibilities - Training and practice of the monitoring personnel - Procedural aspects of the	Wenjun Du Atif Ahmad Khan

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
					verification - Release of pollutants - Environment, ecology and land use - Health, Safety and Working Conditions - Job created	
4.	Waris	Ali	Local officers ⁴	11/04/2022	- General information - If support the project - Environmental protection measures taken by project - If measures are effective - If local environment authority accept the measures	Atif Ahmad Khan
5.	Muhammad	Khalid Anwar	Local stakeholders ³	11/04/2022	- General information - If support the project - Release of pollutants - Environment, ecology and land use - input/grievance method - effectiveness of the grievance mechanism - comments to the project	Atif Ahmad Khan
6.	Nauman	Rafique		11/04/2022		
7.	Hassan	Asghar		11/04/2022		
8.	Muhammad	Urs		11/04/2022		
9.	Muhammad	Ismail Solangi		11/04/2022		
10.	Peer	Bakhash		11/04/2022		
11.	Asif	Ali		11/04/2022		
12.	Laal	Khan Jakhro		11/04/2022		
13.	Yousaf	Jakhro		11/04/2022		
14.	Abdul	Khaliq Chang		11/04/2022		
15.	Maqbool	Jakhro		11/04/2022		
16.	Gulam	Mustafa Chang		11/04/2022		
17.	Guo	Gaii	UPM Umwelt-Projekt-Management GmbH / Consultant	11/04/2022	- Monitoring data management - Monitoring data collection - Data uncertainty and residual risks - Monitoring report preparing - GHG emission reduction calculation	Wenjun Du Atif Ahmad Khan

Questions asked:

The questions in the questionnaires asked were basically based on requirements of GS4GG. The main topics included, but not limited to, the followings:

For local stakeholders,

1. General information
 - a. Name
 - b. Mobile No.
 - c. Age
 - d. Gender
 - e. Education
 - f. Location
2. If you support the operation of the project?

³ The local stakeholders and local officer were interviewed by filling questionnaires provided by CTI to the local expert and Local expert finished the interview and filled questionnaires send back to CTI.

3. Do you think the project improved the air quality?
4. Do you think the project created dust emission during the project implementation?
5. Do you think the soil around the project impacted by the project implementation?
6. Do you think the project generate safety hazards during the project implementation?
7. Do you know the methods to provide you comments to the project?
8. Do you have any comments to the project?

For local officer,

1. General information
 - a. Name
 - b. Mobile No.
 - c. Age
 - d. Gender
 - e. Education
2. Position
3. If you support the operation of Sapphire 49.5 MW Wind Farm Project?
Do you think the project owner of Sapphire 49.5 MW Wind Farm Project has taken dust suppression measures during the project implementation?
And do you think the measures are effective?
4. Do you think the project owner of Sapphire 49.5 MW Wind Farm Project has taken proper soil erosion and sediment control measures?
And do you think the measures are effective?
Did the local environment authority accept the measures?
5. Do you know the methods to provide you comments to the project? if yes, which method you know?
6. Do you have any comments to the project?

The feedback from all the local stakeholders and local officer as per filled questionnaires are listed as below:

1. General information of interviewees
All the interviewees provided the general information
2. For the local stakeholder information, by comparing with the information in the VVB questionnaires, CTI confirmed that all the local stakeholders give positive reply and no comments from their sides.
3. For the local officer survey information, by comparing with the information in the VVB questionnaires, CTI confirmed that the local officer gave positive reply, know methods to provide comments to the project and confirmed that the project provided opportunities for the local in terms of education and CSR. the project also good for the environment.

D.4. Clarification requests, corrective action requests and forward action requests raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
General Description of Project (E.1)	-	-	-
Remaining forward action requests from validation and/or previous verification (E.2)	-	CAR 01	-
Compliance of the project implementation with the registered project design document (E.3)	-	-	-
Post-registration changes (E.4)	-	-	-
Compliance of the monitoring system applied by the project with the registered monitoring plan (E.5)	CL 01	CAR 02 CAR 03	-
Compliance of monitoring activities with the registered monitoring plan (E.6)	-		
SDG Data and parameters fixed ex ante or at renewal of crediting period (E.6.1)	-	-	-
SDG Data and parameters monitored (E.6.2)	-	CAR 04 CAR 05	-

Comparison of monitored parameters with last monitoring period (E.6.3)	-	-	-
Compliance of the sampling implementation with the registered sampling plan (E.6.4)	-	-	-
Assessment of data and calculation of SDG Impacts (E.7)	-		
Calculation of baseline value or estimation of baseline situation of each SDG Impact (E.7.1)	-	-	-
Calculation of project value or estimation of project situation of each SDG Impact (E.7.2)	-	-	-
Calculation of leakage (E.7.3)	-	-	-
Calculation of net benefits as difference of baseline and project values or direct calculation for each SDG Impact (E.7.4)	-	CAR 06	-
Comparison of actual SDG Impacts with estimates in approved PDD (E.7.5)	-	-	-
Remarks on increase in achieved SDG Impacts from estimated value in approved PDD (E.7.6)	CL 02	-	-
Safeguards reporting (E.8)	-	CAR 07 CAR 08	-
Stakeholder inputs and legal disputes (E.9)	-	-	-
Others (please specify)	-	-	-
Total	2	8	-

SECTION E. Verification findings

E.1. General Description of Project

Means of verification	A draft monitoring report was submitted to the verification team by the project participants prior to the start of the verification activities. It is checked that the appropriate form has been used for compiling the MR as per the Gold Standard for Global Goals Monitoring Report Template version 1.1 in October 2020/29/. Further every section has been checked against the GS4GG Principles& Requirements/30/. Via remote verification, it is confirmed that the project activity consists of 33 sets of 1,600 kW wind turbine with total capacity of the project is 52.8 MW and the annual net electricity generation is estimated to be 137,500 MWh, according to the nominal power of installed wind turbine generators which has been confirmed by checking the nameplate during remote verification/25/ and Equipment technical specification/27/. The operation of the project displaces equivalent power generated from WAPDA grid which is mainly dominated by fossil fuel fired power plants. The project reduces fossil fuel consumptions through using clean wind energy. The technology to be employed is environmentally safe and sound as well as state of the art. By implementing the project PP has provided job opportunities to local community and improve their livelihood. The detailed geographic coordinates of the project included in this monitoring period is listed as below:				
	No.		Project Location		
	Host Country		Pakistan		
	Region:		Sindh Province		
	Project location address:		Northeast of Jhimpir City		
	Geographical Coordinates of Wind Farm Center		No.	Longitude	Latitude
			1	67°51'48.33" E	25°07'18.40" N
			2	67°51'48.03" E	25°07'10.59" N
			3	67°54'40.46" E	25°06'20.95" N
			4	67°56'01.05" E	25°05'35.46" N
5			67°57'53.13" E	25°05'03.55" N	
		6	67°58'08.95" E	25°05'28.90" N	
The project location is confirmed as correct and actual by checking the location through Google Earth Map/37/. The project is applicable to the applied CDM Methodology ACM0002 “Grid-connected electricity generation from renewable sources” (Version 20.0)/28/. Also the methodological tools as below are applied by the project during the monitoring period, “Tool to calculate the emission factor for an electricity system” (version 7.0)/35/ The Project (Project ID GS11307) has been registered as a CDM project on 14/11/2012 (UNFCCC Reference Number 8163). The crediting period is 22/11/2015 – 21/11/2025 (Fixed) under CDM by checking the dedicated link/38/. The project has been registered under GS4GG on 04/02/2022, the crediting period of the project under GS4GG is from 02/08/2019 to 01/08/2024. The estimated emission reduction from the project is 61,998 tCO₂e/3/ per year during the first renewable 5-year crediting period and the certified emissions reduction for the current monitoring period from 02/08/2019 to 31/12/2020 is 52,737 tCO₂e/2/. Therefore, the Verification Team was able to confirm that the project description in MR is in accordance with the project description contained in the GS4GG PDD/3/.					
Findings	N/A				

Conclusion	It can be confirmed that the final version Monitoring report/1/ is complete and transparent and in accordance with the GS4GG PDD/3/ and Global Goals Monitoring Report Template version 1.1 in October 2020/29/. Refer to the below sections for details.
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E.2. Remaining forward action requests from validation and/or previous verification

This is the 1st periodic verification of the project. There were two FARs from validation report/7/. Refer to Appendix 4 for details of the assessment of FARs during this verification process. CAR 01 was raised and closed. Refer to Appendix 4 for detail assessment.

E.3. Compliance of the project implementation with the registered project design document

Means of verification

By means of an in-depth review of the PDD and the checks carried out during the remote verification an assessment has been carried out whether the project has been implemented and operated in line with the PDD and whether all physical features of the project are in place. The following has been checked: implemented technology, project equipment as well as monitoring equipment.

Further CTI has checked if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period and consistent notations of key equipment (meters etc.) in PDD/3/, MR/1/ and ER calculation spreadsheet/2/ are applied.

The verifier has performed a remote verification and conducted interview with operation staffs and local stakeholders, in addition checked all the provided evidence as listed in Appendix 3, CTI found that the project has been put into operation normally and CTI found that the implementation of the project activity is in accordance with the approved PDD/3/.

The project started construction on 28/08/2014 which is confirmed as correct by checking the Letter of Notice to proceed/10/ and was commissioned on 22/11/2015, which has been confirmed by checking daily operational log/17/ against the Certificate of Commissioning of Complex to the project/11/ and previous CDM verification report/6/.

The details of verification against if any changes incorporated by PP during this monitoring period are provided in the respective sections and there is no significant change observed in the listed monitoring parameters since registration.

PP has provided detailed specifications in the MR section B.1. Verification team herewith confirms that the specifications of main equipment are the same as provided in the PDD/3/ and checking the nameplates photo of equipment/25/ and Equipment technical specification/27/.

Basic technical details of the project are summarized in below table.

Parameter	Unit	Value
Type	-	GE 1.6xle 50Hz WTG
Rated power	MW	1.6
Diameter of Rotor	m	82.5
Number of blades	-	3
Swept area	m ²	5,346
Rotor speed range	rpm	9 to 18
Rotational direction	-	Clockwise looking downwind
Maximum tip speed	m/s	77.2
Orientation	-	Upwind
Speed regulation	-	Pitch control
Manufacturer	-	GE
Lifetime	years	20

Interviews with operational personnel have been carried out, QMS records, maintenance records, instrument specifications were checked in this context.

This is the 1st monitoring period and the verification team herewith confirms that the project implementation is consistent as mentioned in the GS4GG PDD/3/. There

	are no major obstructions or gaps noted during this monitoring period. The actual distribution and operation were found in accordance with the descriptions provided in the GS4GG PDD. There is no deviation / change evidenced during this monitoring period and there were no delays compared to information in approved project.
Findings	N/A
Conclusion	Assessment concludes the following: a. The implementation status of project activity was found to be in compliance with PDD/3/. b. VVB has conducted the remote verification to confirm the implementation status of the project w.r.t. the realized technology/3/. c. The actual operation of project activity was found to be in compliance with PDD/3/. d. There were no delays compared to information in approved project.

E.4. Post-registration changes

E.4.1. Temporary deviations from Certified Key Project Information, Project Design Document, Monitoring & Reporting Plan, applied methodology or applied standardized baseline

Not Applicable

E.4.2. Corrections

Not Applicable

E.4.3. Changes to start date of crediting period

Under the CDM scheme, the start date of crediting period has been changed from 01/01/2014 (formerly) to 22/11/2015, the details have been verified by checking the CDM PRC validation report/8/. The CDM EB has approved the change prior to the submission of the request for issuance on 10/04/2017 with PRC Reference No. PRC-8163-001 confirmed by checking the website of <https://cdm.unfccc.int/PRCContainer/DB/prcp771647029/view>.

There is no change to start date of crediting period under the GS scheme.

E.4.4. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline

Not Applicable

E.4.5. Changes to project design of approved project

Under the CDM scheme, there is a change to the project design have been approved by the Board prior to the submission of the request for issuance on 10/04/2017 with PRC Reference No. PRC-8163-001 confirmed by checking the website of <https://cdm.unfccc.int/PRCContainer/DB/prcp771647029/view>

The change to the project design is increased installed power capacity of project from 49.5MW (33*1.5MW) to 52.8MW (33*1.6MW), the details have been verified by checking the PRC validation report/8/.

There is no change to project design under the GS scheme.

E.5. Compliance of the monitoring system applied by the project with the registered monitoring plan

Means of verification	By means of comparison of the MR with the applied CDM methodology and all applicable GS4GG guidelines, the verification team has checked whether the monitoring system is in compliance with the monitoring plan/3/ and related requirements of the applied methodology/28/, whether the sample plan conducted accordingly, the source and the applied value of the SDG monitored parameter is acceptable; whether the parameters monitored explain the operational and management structure, responsibilities and institutional arrangement for data collection/archiving, QA/QC procedures. The monitoring system applied by the project compliance with the registered monitoring plan is demonstrated as below for corresponding SDG monitored parameters, SDG 8- Number of jobs created As per the PDD, the number of jobs created was monitored annually, hence during this monitoring period, the monitoring survey by delivered questionnaires to staffs for year 2019 and 2020 and asked whether they got income from working for the project and whether they are satisfied with the payment has been conducted. Besides, the Certificates of worker staffs/20/ has been checked for year 2019 and 2020. In addition, an interview with operation worker staffs has been carried out by CTI during remote verification process for crosschecking. Safeguarding Principle 3. Community Health, Safety and Working Conditions As per the PDD, the project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments was monitored once per monitoring period, hence during this monitoring period, the Monitoring surveys with workers by delivered questionnaires to all the worker staffs and asked whether project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments has been conducted. In addition, an interview with operation worker staffs has been carried out by CTI during remote verification process for crosschecking. Safeguarding Principle 9.1 Landscape Modification and Soil As per the PDD, the soil condition was monitored once per monitoring period, hence during this monitoring period, the Monitoring surveys with workers by delivered questionnaires to all the worker staffs and asked whether plant has taken various measures to reduce the impacts on the soil during the project implementation has been conducted. In addition, an interview with officer of local environment authority has been carried out by the verification team during remote verification process for crosschecking. Safeguarding Principle 9.4 Release of pollutants As per the PDD, the dust emissions was monitored once per monitoring period, hence during this monitoring period, the Monitoring surveys with workers by delivered questionnaires to all the worker staffs and asked whether plant has taken various of dust suppression measures during the project implementation has been conducted. In addition, an interview with officer of local environment authority has been carried out by the verification team during remote verification process for crosschecking. SDG 7, 13 - EG_{facility,y} The monitoring procedures applied by the project compliance with the registered monitoring plan/3/ is demonstrated as below: For monitoring parameters, the quantity of net electricity generation supplied by the
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Project to the grid $EG_{facility,y}$ is calculated as follows:

$$EG_{facility,y} = EG_{export,y} - EG_{import,y}$$

Where:

- $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y
- $EG_{export,y}$ = The quantity of electricity supplied by the project plant/unit to the grid
- $EG_{import,y}$ = The quantity of electricity delivered to the project plant/unit from the grid

The quantity of electricity supplied by the project plant/unit to the grid ($EG_{export,y}$) and the quantity of electricity delivered to the project plant/unit from the grid ($EG_{import,y}$) are monitored by two main bidirectional electricity meters with the accuracy of 0.2s (M11 and M21) which are installed as the main meters at the output side of the 132 kV substation. And the quantity of electricity is the sum of the reading of two meters.

Besides, another two bidirectional electricity meters of the same accuracy of 0.2s (M12 as backup meter for M11; M22 as backup meter for M21) are also installed as the backup meters of the main meters of M11 and M21 located in the same location with main meters which will be used when the main meters are out of work.

Main meters M11 and M21 are recorded by monitoring staffs/13/ according to the Energy Purchase Agreement/12/, and based on the monthly meter reading records, the accounting staff issued monthly receipts of power sales/purchase/15/ based on the confirmed data.

The data from the receipts of power sales/purchase/15/ is crossed checked with the data from Main meters M11 and M21/13/. The value for the exported electricity and imported electricity between receipts of power sales/purchase/15/ and Main meters M11 and M21 are verified as consistent.

SDG 13 - Parameters are monitored to calculate the grid emission factor

- Amount of fossil fuel type i consumed in the project electricity system in year y ($FC_{i,y}$);
- Net calorific value (energy content) of fossil fuel type i in year y ($NCV_{i,y}$);
- CO₂ emission factor of fossil fuel type i used in power unit m in year y ($EF_{CO2,i,y}$);
- Net electricity generated by the project electricity system in year y (EG_y);
- Average net energy conversion efficiency of power unit m in year y ($\eta_{m,y}$)

For all the relevant monitoring parameters used for grid emission factor calculation, via checking the latest Pakistan Energy Yearbooks/18/ issued by Ministry of Petroleum & Natural Resources, CTI confirmed that values for all the relevant monitoring parameters are correct and same to the data source and the grid emission factor is calculated based on "Tool to calculate the emission factor for an electricity system" Version 7.0/35/ and using the correct data of relevant monitoring parameters.

Monitoring framework

The MR contains a diagram illustrating the Operations and Management Structure to be implemented by the project owner in order to implement the project activity which is confirmed consistent with the PDD. The organizational structure is considered sufficient to fulfil the monitoring requirements of the methodology and GS SDG monitoring request, and ensure that all the SDG impacts verified for this monitoring period which is verified by remote verification and interview with PP and monitoring staffs.

Quality Assurance and Quality Control

The related QA/QC procedure has been conducted by PP for the monitoring

	process including data verification and cross check by monitoring team and project owner which has been verified by checking the monitoring electricity records/13/, receipts of power sales/purchase/15/ and calibration certificates/16/, latest Pakistan Energy Yearbooks/18/ issued by Ministry of Petroleum & Natural Resources, Certificates of worker staffs/20/, statement on the environment impacts of the project implementation/22/. Via checking the calibration certificates/16/, CTI confirmed that the calibration of all the meters M11, M12, M21 and M22 have been carried out by the grid in line with the energy purchase agreement/12/ which is confirmed following the national standard/26/. CTI confirmed that the QA/QC procedure has been implemented by PP properly during this monitoring period and the data management is confirmed as effective. Emergency Procedure The readings of the backup meters M12 and M22 will be used for ER calculation if the main meters M11 and M21 works abnormally, and if both were malfunction, project owner and the grid company shall jointly estimate the correct reading in a conservative manner to ensure the ER calculation will not be overestimated. If the project owner and the grid company fail to mutually estimate of the correct reading, the readings will be taken as zero for conservative. Via checking all the monitoring electricity records/13/, receipts of power sales/purchase/15/ and calibration certificates/16/, CTI confirmed that no emergency happened during this monitoring period. Data Management and Archive Via checking the monitoring electricity records/13/, receipts of power sales/purchase/15/ and calibration certificates/16/, latest Pakistan Energy Yearbooks/18/ issued by Ministry of Petroleum & Natural Resources, Certificates of worker staffs/20/, statement on the environment impacts of the project implementation/22/, CTI confirmed that all the records and files are archived by project owner. All the monitored data will be kept during the whole crediting period and 2 years after the end of the crediting period or until the last issuance of GS CERs, whichever occurs later. Non-Double counting assessment The project site has unique graphical coordinates which can be identified clearly if the project applied other carbon scheme, and the project owner signed declaration letter regarding no double counting. Via checking the declaration/21/, CTI confirmed that the project owner is aware that for a given vintage, a registered Gold Standard project can request the issuance of the emission reductions under only one standard/certification scheme. The project is registered as CDM and GS on 14/11/2012 and 04/02/2022, respectively. Currently, the project is seeking for GS labelling on issued CERs for the monitoring period (02/08/2019-31/12/2020). Apart from GS and CDM, no other voluntary or compliance standard (regardless of domestic or international) has been applied. Furthermore, the VVB has checked possibilities of double counting by reviewing all relevant registries including VCS/42/ and other GHGs programs such as EU ETS, IREC/43/ or subnational, various regional schemes/43/. It is confirmed that there is no potential exists for Double Counting of emissions reductions due to issuance of Gold Standard CERs/CO₂-certificates from the considered project activity. It is concluded that the PP has avoided the double counting to ensure the ER calculation is conservative. Thus the risk of double counting is unlikely to happen. In conclusion, the MP is completely in accordance with the approved methodology/28/ applied by the project and GS4GG PDD/3/.
Findings	CL 01, CAR 02 and CAR 03 were raised and resolved.
Conclusion	CL 01, CAR 02 and CAR 03 were raised and closed. Refer to Appendix 4 for detail assessment.

	The monitoring plan complies with the applied methodology and the monitoring system and all applied procedures are completely in compliance to the registered monitoring plan and the methodology.
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E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. SDG Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	By means of comparison of the MR and the ER calculation with the registered GS4GG PDD/3/, the verification team confirmed that there is no fixed ex-ante parameters determined for this project.
Findings	N/A
Conclusion	No parameters fixed ex ante have been indicated in registered GS4GG PDD/3/.

E.6.2. SDG Data and parameters monitored

Means of verification	In accordance with Gold Standard for the Global Goals Principles and Requirements/30/ and applied methodology/28/ included the applied tool/35/, the verification team reviewed the MR/1/, registered GS4GG PDD/3/, crosschecked against the other available data and documents, verified whether all the SDG monitored parameters in accordance with all relevant applicable requirements in the Gold Standard for the Global Goals Principles and Requirements/30/; whether the MR list all SDG data and parameters to be monitored, as required by the monitoring plan/3/ and whether the data and parameters obtained in a reasonable way, whether the source and the applied value of the monitored parameter is acceptable; whether the parameters monitored explain the operational and management structure, responsibilities and institutional arrangement for data collection/archiving, QA/QC procedures.			
	The information flow and the values in the monitoring report were verified as follows:			
	1. $EG_{facility,y}$			
	Relevant SDG indicator	SDG7, 13		
	Data/Parameter	$EG_{facility,y}$		
	Unit	MWh		
	Description	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y		
	Value applied for this monitoring period	02/08/2019-31/12/2019: 23,592.06 01/01/2020-31/12/2020: 87,257.13 Total for this monitoring period: 110,849.20		
	Measured/calculated/default	Measured and calculated by $EG_{facility,y} = EG_{export,y} - EG_{import,y}$		
	Measuring /Reading /Recording frequency	Measured continuously and recorded monthly		
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the latest approved PDD/3/ and applied methodology/28/.			
Monitoring equipment with accuracy	$EG_{export,y}$ and $EG_{import,y}$ are monitored by main meters M11 and M21 and backup meters M12 and M22 listed below,			
	No.	M11	M21	

		Meter type	ISKRA MT-860	ISKRA MT-860
		Accuracy class	0.2s	0.2s
		Serial number	41601054	41601050
		Calibration dates	20/09/2017 12/09/2019 15/01/2020	20/09/2017 12/09/2019 15/01/2020
		Validity	20/09/2017 - 19/09/2019, 12/09/2019- 11/09/2021, 15/01/2020- 14/01/2022	20/09/2017 - 19/09/2019, 12/09/2019- 11/09/2021, 15/01/2020- 14/01/2022
		No.	M12 (old)	M22 (old)
		Meter type	ISKRA MT-860	ISKRA MT-860
		Accuracy class	0.2s	0.2s
		Serial number	41601051	41601049
		Calibration dates	20/09/2017 12/09/2019	20/09/2017 12/09/2019
		Validity	20/09/2017- 19/09/2019, 12/09/2019- 11/09/2021	20/09/2017- 19/09/2019, 12/09/2019- 11/09/2021
		The old back up meters of M12 and M22 were replaced with new ones on 15/01/2020 by the national grid due to periodic rotation which is confirmed by checking the meter change record/14/, and it is verified there was no errors occurred for old meters and due to the main meters were normal for this monitoring period, the data from back up meters are not used for ER calculation.		
		No.	M12 (new)	M22 (new)
		Meter type	ISKRA MT-860	ISKRA MT-860
		Accuracy class	0.2s	0.2s
		Serial number	72440419	72440423
		Calibration dates	15/01/2020	15/01/2020
		Validity	15/01/2020~ 14/01/2022	15/01/2020~ 14/01/2022
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period?	Yes, CTI has checked all related calibration certificates/16/ and confirms that the calibration of each meter was conducted by grid company as per the EPA/12/ and national standard/26/ and is valid for the entire 1 st monitoring period.		
	How were the values in the monitoring report verified?	$EG_{\text{facility},y}$ is calculated by below formula $EG_{\text{facility},y} = EG_{\text{export},y} - EG_{\text{import},y}$ $EG_{\text{export},y}$ and $EG_{\text{import},y}$ are measured continuously by		

		main meters M11 and M21, backup meters M12 and M22 installed at High Voltage Side (132kV) of the Power Transformer of the Complex with accuracy of 0.2s and recorded by monitoring staffs monthly on last day of each month during this monitoring period. The main meters monitor the amount of electricity exported to and imported from WAPDA grid by the project. The meter readings are recorded daily and aggregated monthly. The meter readings are recorded by the monitoring staffs/13/. Neither failure of main meters and backup meters were detected during the monitoring period. The reported value in the MR has been recalculated by the verification team based on the values from the monthly reports/13/. Based on monthly reports/13/, the verification team calculated the data aggregation completely independent from the calculation provided by the PP. 100% of the monthly reports have been verified. The values have been cross-checked with monthly receipts of power sales/purchase/15/ and verified as consistent. The calculated value of $EG_{\text{facility},y}$ in the MR has been re-calculated by the verification team based on the values from the monthly meter reading records/13/ and receipts of power sales/purchase/15/ for all the listed parameters as assessed in below tables.
	If applicable, has the reported data been cross-checked with other available data?	Yes. The monthly meter reading records/13/ have been cross-checked with values in monthly receipts of power sales/purchase/15/ and verified as consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, QA/QC procedure for monitoring staff training and competence/19/ were established and implemented. The data flow and protection process were verified via remote verification.
	2. $EF_{\text{grid},y}$	
	Data/Parameter	$EF_{\text{grid},y}$
	Unit	tCO ₂ e/MWh
	Description	Grid Emission factor of WAPDA grid
	Value applied for this monitoring period	Grid Emission Factor for year 2019: 0.5677; Grid Emission Factor for year 2020: 0.4509;
	Measured/calculated/default	Calculated in line with the "Tool to calculate the emission factor for an electricity system" Version 7.0/35/
	Measuring /Reading /Recording frequency	Calculated annually as per "Tool to calculate the emission factor for an electricity system" Version 7.0/35/ and the latest data available from the Pakistan Energy Yearbook 2018 and 2019/18/ issued by Ministry of Petroleum & Natural Resources
	Is measuring and reporting frequency in accordance with the	Yes, the measuring and reporting frequency are in line with the latest approved PDD/3/ and applied methodology/28/.

	monitoring plan and monitoring methodology? (Yes / No)	
	Monitoring equipment with accuracy	N/A
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period?	N/A
	How were the values in the monitoring report verified?	$EF_{grid,y}$ is calculated annually as per “Tool to calculate the emission factor for an electricity system” Version 7.0/35/, and the latest data available from the Pakistan Energy Yearbook 2018 and 2019/18/ have been used for calculate the emission factor of the WPADA grid in year 2019 and 2020 which is verified in line with the request from “Tool to calculate the emission factor for an electricity system” Version 7.0/35/ and PDD. The reported value in the MR has been recalculated by the verification team based on the values from the Pakistan Energy Yearbook 2018 and 2019/18/ and verified as correct.
	If applicable, has the reported data been cross-checked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, QA/QC procedures were found to be appropriate and reliable via checking the annual data available from the Pakistan Energy Yearbook 2018 and 2019/18/.
	3. $FC_{i,y}$	
Data/Parameter		$FC_{i,y}$
Unit		Mass unit
Description		Amount of fossil fuel type i consumed in the project electricity system in year y
Value applied for this monitoring period		Refer to ER sheet/2/
Measured/calculated/default		Default
Measuring /Reading /Recording frequency		Default data available from the Pakistan Energy Yearbook 2018 and 2019/18/ issued by Ministry of Petroleum & Natural Resources
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)		Yes, the measuring and reporting frequency are in line with the latest approved PDD/3/.
Monitoring equipment with accuracy		N/A

	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period?	N/A
	How were the values in the monitoring report verified?	Default data available from the Pakistan Energy Yearbook 2018 and 2019/18/ issued by Ministry of Petroleum & Natural Resources
	If applicable, has the reported data been cross-checked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	N/A
	4. $NCV_{i,y}$	
	Data/Parameter	$NCV_{i,y}$
	Unit	GJ/Mass unit
	Description	Net calorific value (energy content) of fossil fuel type <i>i</i> in year <i>y</i>
	Value applied for this monitoring period	Refer to ER sheet/2/
	Measured/calculated/default	Default
	Measuring /Reading /Recording frequency	Available from IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC/40/
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the latest approved PDD/3/.
	Monitoring equipment with accuracy	N/A
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period?	N/A
	How were the values in the monitoring report verified?	Derived from IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC/40/
	If applicable, has the reported data been cross-checked with other available data?	N/A

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	N/A
	5. EF_{CO2,y}	
	Data/Parameter	EF_{CO2,y}
	Unit	tCO ₂ /GJ
	Description	CO ₂ emission factor of fossil fuel type <i>i</i> used in power unit <i>m</i> in year <i>y</i>
	Value applied for this monitoring period	Refer to ER sheet/2/
	Measured/calculated/default	Default
	Measuring /Reading /Recording frequency	Available from IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC/40/
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the latest approved PDD/3/.
	Monitoring equipment with accuracy	N/A
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period?	N/A
	How were the values in the monitoring report verified?	Derived from IPCC default values at the lower limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC/40/
	If applicable, has the reported data been cross-checked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	N/A
	6. EG_y	
Data/Parameter	EG_y	
Unit	MWh	

	Description	Net electricity generated by the power unit of electricity system in year y
	Value applied for this monitoring period	Refer to ER sheet/2/
	Measured/calculated/default	Default
	Measuring /Reading /Recording frequency	Default data available from the Pakistan Energy Yearbook 2018 and 2019/18/ issued by Ministry of Petroleum & Natural Resources
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the latest approved PDD/3/.
	Monitoring equipment with accuracy	N/A
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period?	N/A
	How were the values in the monitoring report verified?	Default data available from the Pakistan Energy Yearbook 2018 and 2019/18/ issued by Ministry of Petroleum & Natural Resources
	If applicable, has the reported data been cross-checked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	N/A
7. $\eta_{m,y}$		
	Data/Parameter	$\eta_{m,y}$
	Unit	-
	Description	Average net energy conversion efficiency of power unit m in year y
	Value applied for this monitoring period	Refer to ER sheet/2/
	Measured/calculated/default	Default
	Measuring /Reading /Recording frequency	Default data available from the table in Annex 1 of the Tool to calculate the emission factor of an electricity system, version 7.0/35/
	Is measuring and reporting frequency in accordance with the monitoring plan and	Yes, the measuring and reporting frequency are in line with the latest approved PDD/3/.

	monitoring methodology? (Yes / No)	
	Monitoring equipment with accuracy	N/A
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period?	N/A
	How were the values in the monitoring report verified?	Default data available from the table in Annex 1 of the Tool to calculate the emission factor of an electricity system, version 7.0/35/
	If applicable, has the reported data been cross-checked with other available data?	N/A
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	N/A
	8. Number of jobs created	
	Relevant SDG indicator:	SDG8
	Data/Parameter	Number of jobs created
	Description	Number of jobs created
	Value applied for this monitoring period	02/08/2019 to 31/12/2019: 20 jobs created 01/01/2020 to 31/12/2020: 20 jobs created In this monitoring period from 02/08/2019 to 31/12/2020: 20 jobs created
	Measuring /Reading /Recording frequency	Annually
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the GS4GG PDD/3/.
	Monitoring equipment with accuracy	N/A The value is derived from Monitoring surveys with workers/23/ which is also checked with Certificates of worker staffs/20/.
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period? (Yes / No)	N/A
	How were the values in the monitoring report verified?	Monitoring parameter of number of jobs created was determined by Monitoring surveys with workers/23/ conducted on 11/03/2020 and 01/02/2021 which is also checked with Certificates of worker staffs/20/, it is verified

		that the number of jobs created during this monitoring period is 20 (same per year) incl. Project director, plant manager, operation & maintenance manager, electrical manager, operation engineers, maintenance engineer, etc. Via checking the Certificates of worker staffs/20/, CTI confirmed that all the 20 jobs created are for men, no women workers are involved in this project, which has been clarified by PP in the MR by considering the host country's customs and cultural restrictions to women which has been verified as reasonable by local expert. Furthermore, via checking the Monitoring surveys with workers/23/ and interview with worker staffs during remote verification process, CTI confirmed that the workers are satisfied with the payment and all the workers are qualified and have got the work certificates/20/. It is verified that the data in MR is correct.
	If applicable, has the reported data been cross-checked with other available data? (Yes / No)	Yes. The Monitoring surveys with workers/23/ was cross checked with Certificates of worker staffs/20/ and remote verification interview with staffs.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, QA/QC procedures were found to be appropriate and reliable.
Findings	CAR 04 and CAR 05 were raised and resolved.	
Conclusion	CAR 04 and CAR 05 were raised and closed. Refer to Appendix 4 for detail assessment. The SDG parameters have been monitored appropriately, in accordance with the registered monitoring plan/3/ and applied methodology/28/. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan of PDD/3/.	

E.6.3. Comparison of monitored parameters with last monitoring period

Means of verification	This is the 1 st monitoring period. Hence comparison is not applicable.
Findings	N/A
Conclusion	N/A

E.6.4. Compliance of the sampling implementation with the registered sampling plan

Means of verification	No sampling plan in the PDD.
Findings	N/A
Conclusion	N/A

E.7. Assessment of data and calculation of SDG Impacts

E.7.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

Means of verification	SDG 7 Baseline Impact: Via checking the MR and through interview with users, it is confirmed that the project promotes access to affordable and clean energy services. Hence, in compliance with the UN's SDG 7.1 target "By 2030, ensure universal
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access to affordable, reliable and modern energy services”, the monitoring parameter of SDG7 is defined as **Amount of net electricity supplied to grid**.

In the baseline situation, as per the PDD, it is verified that no power generation unit at the site of the project and no clean energy is available in the baseline. Therefore, baseline impact benefit is zero.

SDG 8 Baseline Impact:

Via checking the MR and through interview with representative of staffs, it is confirmed that the project created jobs.

Hence, in compliance with the UN's SDG 8.3 target “Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services”, the parameter of SDG8 is defined as **Number of jobs created**.

In the baseline situation, as per interview with representative of staffs and PDD, it is verified that no new job created. Therefore, baseline impact benefit is zero.

SDG 13 Baseline Impact:

Via checking the MR and through checking the emission reduction calculation sheet, it is confirmed that there were baseline emissions as calculated below,

Baseline Emissions BE_y Calculation Assessment:

The formula used for the determination of baseline emissions which is consistent with the PDD:

$$BE_y = EG_{facility,y} \times EF_{grid,y}$$

$$= EG_{facility,y} \times EF_{grid,CM,y}$$

Where:

- BE_y = Baseline emissions in year y (tCO₂e)
- $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)
- $EF_{grid,CM,y}$ = Combined margin CO₂ emission factor of the WAPDA grid in year y (tCO₂/MWh)
- $EF_{grid,y}$ = Grid Emission factor of WAPDA grid in year y (tCO₂/MWh), equals to $EF_{grid,CM,y}$

$$EG_{facility,y} = EG_{export,y} - EG_{import,y}$$

Where:

- $EG_{facility,y}$ = Quantity of net electricity generation supplied by the Project to the grid in year y
- $EG_{export,y}$ = The electricity delivered to WAPDA by the project in year y
- $EG_{import,y}$ = The electricity input from the WAPDA by the project in year y

For $EF_{grid,y}$ ($EF_{grid,CM,y}$), the calculation is checked in line with the Tool to calculate the emission factor of an electricity system, version 7.0/35/ and latest approved PDD/3/ as per below steps.

The Tool to calculate the emission factor for an electricity system version 7.0 is used. Following the tool, this factor is calculated as a combined margin (CM), consisting of the simple average of the operating margin emission factor (OM) and the build margin (BM) emission factor:

$$EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM}$$

With the input values:

- $EF_{grid,CM,y}$ Combined margin grid emission factor in year y (tCO₂/MWh)
- $EF_{grid,OM,y}$ Operation margin grid emission factor in year y (tCO₂/MWh)

	$EF_{grid,BM,y}$ Build margin grid emission factor in year y (tCO₂/MWh) w_{OM} Weighting of operation margin factor (%) w_{BM} Weighting of build margin factor (%) For the calculation of these input values, below six steps are used according to Tool to calculate the emission factor of an electricity system, version 7.0/35/. STEP 1. Identify the relevant electricity systems. Via checking the Pakistan Energy Yearbook/18/, CTI confirmed that Pakistan comprised two electricity grids, the Karachi Electricity Supply Company (KESC) grid, which supplies Karachi city and adjoining areas of Sindh and Balochistan, and the national electricity grid, managed by the <i>Water and Power Development Authority (WAPDA)</i>. As per the Tool to calculate the emission factor of an electricity system, version 7.0/35/, the WAPDA grid is determined as the relevant electricity systems due to the project is connected to the national electricity grid (WAPDA). STEP 2. Choose whether to include off-grid power plants in the project electricity system (optional). According to Option I of step 2 of Tool to calculate the emission factor of an electricity system, version 7.0/35/, off-grid power plants are not included in the calculation. STEP 3. Select a method to determine the operating margin (OM). Via checking the Pakistan Energy Yearbook/18/, CTI confirmed that share of low-cost/must-run resources has constituted less than 50% of total grid generation in average of the five most recent year, hence simple OM method (option a) is applicable. For the calculation of $EF_{grid,OM,y}$, ex-post calculation is chosen in the PDD. Hence, the latest calculation of the operation margin emission factor has to be conducted in each monitoring report and the factor for the year proceeding the previous year ($y-1$) was used for the calculations which is confirmed in line with the Tool to calculate the emission factor of an electricity system, version 7.0/35/. STEP 4. Calculate the operating margin emission factor according to the selected method. Option B is chosen to calculate the OM emission factor using the total net electricity generation, emission and utilization data for each fuel type as above assessment. Via the Pakistan Energy Yearbooks/18/, the simple operation margins for the year 2019 and 2020 are calculated and verified as correct. STEP 5. Calculate the build margin (BM) emission factor. Option 2 is chosen and the build margin is updated every year of the fixed crediting period as per the PDD. Via the Pakistan Energy Yearbooks/16/, the build margin emissions factor for the year 2019 and 2020 are calculated and verified as correct. STEP 6. Calculate the combined margin (CM) emissions factor. Due to the project is a wind power generation project activity, hence according to the Tool to calculate the emission factor of an electricity system, version 7.0/35/, $w_{OM} = 0.75$ and $w_{BM} = 0.25$, hence the final results of $EF_{grid,CM,y}$ are calculated as below, 0.5677 tCO₂/MWh for vintage 2019, 0.4509 tCO₂/MWh for vintage 2020. Then based on above assessment of each monitored parameters in section E.6.2 of this report, for this monitoring period the baseline emissions are calculated as For vintage 2019, $BE_y = 23,592.06 \text{ MWh} \times 0.5677 \text{ tCO}_2/\text{MWh} = 13,393 \text{ tCO}_2\text{e}$ For vintage 2020, $BE_y = 87,257.13 \text{ MWh} \times 0.4509 \text{ tCO}_2/\text{MWh} = 39,344 \text{ tCO}_2\text{e}$
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	For this monitoring period, BE_y is calculated as 52,737 tCO₂e which is confirmed as correct. The values monitored are transparently shown in the Monitoring Report Section D.2 and E.1. During remote verification, the verification team checked and cross-checked these values in detail using various supporting records and documents. Refer to the section E.6.2 of this report for SDG parameters assessment. The Baseline emission calculation is provided in the Emission reduction calculation spreadsheet/2/ in a transparent manner and the calculation found correct. There is no material error noted in the accounting and application of various data against monitored parameters.
Findings	N/A
Conclusion	The verification team confirms that - The complete data was available and is duly reported; - As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section E.6.2. of this report); - Appropriate methods and formulae for calculating baseline SDG Impact; - Appropriate emission factors and other reference values were correctly applied. - The calculation of baseline situation of each SDG Impact is correct.

E.7.2. Calculation of project value or estimation of project situation of each SDG Impact

Means of verification	SDG 7 Project Impact: For SDG Indicator, as assessed in E.6.2, it is verified that From 02/08/2019 to 31/12/2019, Amount of net electricity supplied to grid is 23,592.06 MWh From 01/01/2020 to 31/12/2020, Amount of net electricity supplied to grid is 87,257.13 MWh Therefore, the SDG 7 project impact in this monitoring period from 02/08/2019 to 31/12/2020 was Amount of net electricity supplied to grid is 110,849.20 MWh. SDG 8 Project Impact: From 02/08/2019 to 31/12/2019, as verified in section E.6.2, 20 of jobs created. From 01/01/2020 to 31/12/2020, as verified in section E.6.2, 20 of jobs created. Therefore, the SDG 8 project impact in this monitoring period from 02/08/2019 to 31/12/2020 is 20 of jobs created. SDG 13 Project Impact: Project Emission Calculation Assessment: As per the PDD and applied methodology, there is no project emission for the wind project. Thus project emission is zero.
Findings	N/A
Conclusion	The verification team confirms that - The complete data was available and is duly reported; - As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section E.6.2. of this report); - Appropriate methods and formulae for calculating project SDG Impact were followed; The calculation of project situation of each SDG Impact is correct.

E.7.3. Calculation of leakage

Means of verification	Via checking the PDD of this project and applied methodology, it is confirmed that no leakage for this project was identified.
Findings	N/A
Conclusion	The verification team confirms that no leakage is considered.

E.7.4. Calculation of net benefits as difference of baseline and project values or direct calculation for each SDG Impact

Means of verification	Calculation of net benefits as difference of baseline and project values or direct calculation for each SDG Impact is as following,																				
	Goal 7 Net Benefit																				
	Net Benefit SDG 7 for 02/08/2019 to 31/12/2019 = Project impact of SDG7 (23,592.06 MWh) – Baseline impact of SDG7 (0) =23,592.06 MWh net electricity supplied to grid																				
	Net Benefit SDG 7 for 01/01/2020 to 31/12/2020= Project impact of SDG7 (87,257.13MWh) – Baseline impact of SDG7 (0) =87,257.13 MWh net electricity supplied to grid																				
	Net Benefit SDG 7 for 02/08/2019 to 31/12/2020 = Project impact of SDG7 (110,849.20MWh) – Baseline impact of SDG7 (0) =110,849.20 MWh net electricity supplied to grid																				
	Goal 8 Net Benefit																				
	From 02/08/2019 to 31/12/2019, Net Benefit SDG 8 (jobs created) = Project impact of SDG8 (20 jobs created) – Baseline impact of SDG8 (0) =20 jobs created																				
	From 01/01/2020 to 31/12/2020, Net Benefit SDG 8 (jobs created) = Project impact of SDG8 (20 jobs created) – Baseline impact of SDG8 (0) =20 jobs created																				
	From 02/08/2019 to 31/12/2020, Net Benefit SDG 8 (jobs created) = Project impact of SDG8 (20 jobs created) – Baseline impact of SDG8 (0) =20 jobs created																				
	Goal 13 Net Benefit																				
In accordance with applied methodology, registered GS4GG PDD and validation report,																					
Net Benefit SDG 13 = baseline emission – project emission – leakage emission = 52,737 tCO ₂ e - 0 tCO ₂ e -0 tCO ₂ e = 52,737 tCO ₂ e																					
Emission Reductions Calculation																					
<table><tr><th> Parameters Period </th><th>Baseline Emissions <i>BE_y</i> (tCO₂e)</th><th>Project Emissions <i>PE_y</i> (tCO₂e)</th><th>Leakage Emissions <i>LE_y</i> (tCO₂e)</th><th>Emission Reductions <i>ER_y</i> (tCO₂e)</th></tr><tr><td>02/08/2019-31/12/2019</td><td>13,393</td><td>0</td><td>0</td><td>13,393</td></tr><tr><td>01/01/2020-31/12/2020</td><td>39,344</td><td>0</td><td>0</td><td>39,344</td></tr><tr><td>Total</td><td>52,737</td><td>0</td><td>0</td><td>52,737</td></tr></table>		Parameters Period	Baseline Emissions <i>BE_y</i> (tCO ₂ e)	Project Emissions <i>PE_y</i> (tCO ₂ e)	Leakage Emissions <i>LE_y</i> (tCO ₂ e)	Emission Reductions <i>ER_y</i> (tCO ₂ e)	02/08/2019-31/12/2019	13,393	0	0	13,393	01/01/2020-31/12/2020	39,344	0	0	39,344	Total	52,737	0	0	52,737
Parameters Period	Baseline Emissions <i>BE_y</i> (tCO ₂ e)	Project Emissions <i>PE_y</i> (tCO ₂ e)	Leakage Emissions <i>LE_y</i> (tCO ₂ e)	Emission Reductions <i>ER_y</i> (tCO ₂ e)																	
02/08/2019-31/12/2019	13,393	0	0	13,393																	
01/01/2020-31/12/2020	39,344	0	0	39,344																	
Total	52,737	0	0	52,737																	
All the figures as per the monitoring report were cross-checked by the verification team against basic monitored data. Refer to E.6.2 for details.																					
Findings	CAR 06 was raised and resolved.																				
Conclusion	CAR 06 was raised and closed. Refer to Appendix 4 for detail assessment. The verification team confirms that a) The complete data was available and is duly reported; b) As indicated above, the description with regard to cross-check of reported data is included under respective parameter (refer Section E.6.2 of this report); c) Appropriate methods and formulae for calculating net benefits for each SDG Impact were followed; The calculation of net benefits for each SDG Impact is correct.																				

E.7.5. Comparison of actual SDG Impacts with estimates in approved PDD

Means of verification	The verification team has checked if the MR includes a comparison of actual values of the monitoring period with the estimations in the registered PDD for each SDG. Conclusion is as below table		
	Item	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values achieved during this monitoring period

	SDG7	195,136 MWh net electricity supplied to grid	110,849.20 MWh net electricity supplied to grid
	SDG 8	20 jobs created	20 jobs created
	SDG 13	110,974 tCO ₂ e	52,737 tCO ₂ e
Findings	N/A		
Conclusion	The MR includes a summary table of comparison of actual values of the monitoring period with the estimations in the PDD for each SDG.		

E.7.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

Means of verification	For SDG 7, the actual outcome during this monitoring period is 43.2% lower than the estimated value due to the poor wind resources confirmed by interview with project owner and operation staff and checking the wind source data in operation log/17/, hence it is reasonable that the actual value is lower than estimated in PDD/3/. For SDG 8, there is no difference by comparison of actual value of outcome with estimates in PDD/3/. For SDG 13, It is confirmed that the actual value during this monitoring period was found to be 40% lower than ex-ante estimated value the for this project during this monitoring period, via comparing with the PDD/3/ estimated value, it is verified that due to the poor wind resources confirmed by interview with project owner and operation staff and checking the wind source data in operation log/17/, Hence it is verified that the actual value lower than estimated in PDD/3/ is reasonable and acceptable.
Findings	CL 02 was raised and resolved.
Conclusion	CL 02 was raised and closed. Refer to Appendix 4 for detail assessment. The actual SDG Impacts for 7 and 13 are lower and SDG Impacts for 8 is same to the estimated values given in the registered PDD/3/, which is assessed as appropriate and accepted.

E.8. Safeguards reporting

Means of verification	Via checking the registered GS4GG PDD/3/, CTI confirmed that there are three safeguarding principles need to be monitored which have been assessed as below, 1.	
	Relevant Safeguarding Principle	9.1 Landscape Modification and Soil
	Data/Parameter	Soil condition
	Description	General soil erosion and sediment control measures would include: Keep open areas of excavation to a minimum; Maintain sediment control structures along drainage lines to prevent the transport of sediment from the site; Stockpiles of materials should be located away from drainage lines and formed with sediment control structures placed immediately down slope; Control drainage in areas of construction areas using a water truck; Minimization of traffic in construction zones and use of a dedicated parking area, i.e. site compound; Revegetate disturbed areas i.e. around turbine foundations as soon as practical.

	Value applied for this monitoring period	All worker staffs confirmed the plant has taken various measures to reduce the impacts on the soil during the project implementation in this monitoring period.
	Measuring /Reading /Recording frequency	Once per monitoring period
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the GS4GG PDD/3/.
	Monitoring equipment with accuracy	N/A The value is derived from Monitoring surveys with workers/23/ which is also checked with Statement on the environment impacts of the project implementation/22/.
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period? (Yes / No)	N/A
	How were the values in the monitoring report verified?	As per the PDD, the soil condition was monitored once per monitoring period, hence during this monitoring period, the Monitoring surveys with workers by delivered questionnaires to all the worker staffs on 11/03/2020 and 01/02/2021 and asked what measures have been taken by the project plant to reduce the impact on soil. Besides, the Statement on the environment impacts of the project implementation/22/ have been checked, CTI verified that the various measures to reduce the impacts on the soil have been taken by PP as stated in PDD during the project implementation in this monitoring period. In addition, an interview with officer of local environment authority has been carried out by the verification team during remote verification process for crosschecking, it is confirmed that the officer from local environment authority confirmed that the measures have been conducted accordingly. It is verified that the data in MR is correct.
	If applicable, has the reported data been cross-checked with other available data? (Yes / No)	Yes. The Monitoring surveys with workers/23/ was cross checked with Statement on the environment impacts of the project implementation/22/ and remote verification interview with officer from local environment authority and worker staffs.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, QA/QC procedures were found to be appropriate and reliable.
	2.	

	Relevant Safeguarding Principle	9.4 Release of pollutants
	Data/Parameter	Dust emissions
	Description	In order to reduce dust emissions during the construction phase, the following dust suppression measures stipulated and implemented: - Frequent watering of exposed area or worksite of excavation to maintain surface wet, if necessary and practical; - Imposition of speed controls for vehicles and unpaved site roads; - Well-maintained diesel-powered mechanical equipment to avoid black smoke emissions; - Shut-down of diesel-powered mechanical equipment or trucks inside the worksites when they are not in operation.
	Value applied for this monitoring period	All worker staffs confirmed the plant has taken various measures to improve the air quality and reduce the impacts on the dust emissions during the project implementation in this monitoring period.
	Measuring /Reading /Recording frequency	Once per monitoring period
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the GS4GG PDD/3/.
	Monitoring equipment with accuracy	N/A The value is derived from Monitoring surveys with workers/23/ which is also checked with Statement on the environment impacts of the project implementation/22/.
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period? (Yes / No)	N/A
	How were the values in the monitoring report verified?	As per the PDD, the dust emissions was monitored once per monitoring period, hence during this monitoring period, the Monitoring surveys with workers by delivered questionnaires to all the worker staffs on 11/03/2020 and 01/02/2021 and asked what measures have been taken by the project plant to reduce the impact on the dust emissions. Besides, the Statement on the environment impacts of the project implementation/22/ have been checked, CTI verified that the various dust suppression measures have been taken by PP as stated in PDD during the project implementation in this monitoring period. In addition, an interview with officer of local environment authority has been carried out by the verification team during remote verification process

		for crosschecking, it is confirmed that the officer from local environment authority confirmed that the measures have been conducted accordingly. It is verified that the data in MR is correct.
	If applicable, has the reported data been cross-checked with other available data? (Yes / No)	Yes. The Monitoring surveys with workers/23/ was cross checked with Statement on the environment impacts of the project implementation/22/ and remote verification interview with officer from local environment authority and worker staffs.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, QA/QC procedures were found to be appropriate and reliable.
	3.	
	Relevant Safeguarding Principle	3 - Community Health, Safety and Working Conditions
	Data/Parameter	SG principle #8 (The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments)
	Description	Measures are taken to eliminate safety hazards related to the construction, incl. maintain good housekeeping, dispose of left over materials, eliminate over-head work of welders and burners; use good lighting to illuminate work areas, pathways, corridors, hall ways, working platforms, have a supply of flashlights; keep work areas cleared, dry, sanded, use personal protective equipment, etc.
	Value applied for this monitoring period	All worker staffs confirmed the plant has taken various measures to eliminate safety hazards during the project implementation in this monitoring period.
	Measuring /Reading /Recording frequency	Once per monitoring period
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are in line with the GS4GG PDD/3/.
	Monitoring equipment with accuracy	N/A The value is derived from Monitoring surveys with workers/23/ which is also checked with remote verification interview with worker staffs.
	Is the installed monitoring equipment has been duly calibrated for this entire monitoring period? (Yes / No)	N/A
	How were the values in the monitoring report verified?	As per the PDD, the various measures to eliminate safety hazards was monitored once per monitoring period, hence during this monitoring period, the

		Monitoring surveys with workers by delivered questionnaires to all the worker staffs on 11/03/2020 and 01/02/2021 and asked what measures have been taken by the project plant to eliminate safety hazards related to the project implementation. Besides, the worker staffs have been interviewed during remote verification, CTI verified that the various measures to eliminate safety hazards have been taken by PP as stated in fPDD during the project implementation in this monitoring period. It is verified that the data in MR is correct.
	If applicable, has the reported data been cross-checked with other available data? (Yes / No)	Yes. The Monitoring surveys with workers/23/ was cross checked with remote verification interview with worker staffs.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, QA/QC procedures were found to be appropriate and reliable.
And via remote verification interview with local stakeholders and officer, CTI verified that the project was implemented normally and in line with the design in the PDD/3/, there was no more information on any assessment questions answered 'Potentially' related to Safeguarding principles.		
Findings	CAR 07 and CAR 08 were raised and resolved.	
Conclusion	CAR 07 and CAR 08 were raised and closed. Refer to Appendix 4 for detail assessment. The Safeguarding principles have been monitored as per PDD requirement during this monitoring period and no more information on any assessment questions answered 'Potentially' related to Safeguarding principles.	

E.9. Stakeholder inputs and legal disputes

Means of verification	As confirmed through the remote verification interview with the local stakeholders, it is verified that the inputs/grievances mechanism including the comment book, phone No. and email access has been in place as continuous and grievance mechanism of the project which was implemented in line with the requirements and description as set up in the PDD. As per remote verification process checking the photo of comment book/25/ and internet/email address which has been provided and interview with PP and local stakeholders, it is verified that they have access to provide issues or comments through given methods. And via checking the different approach, it is verified that there was no input/grievance received during this monitoring period.
Findings	N/A
Conclusion	All the methods of continuous input /grievance mechanism are confirmed during remote verification and interviews. It is verified that there are no comments/complaints received from the stakeholders during this monitoring period of the project activity.

SECTION F. Internal quality control

The final verification report was undergone a technical review by a qualified independent reviewer before requesting issuance of the project activity. The technical review was performed by a

technical reviewer qualified in accordance with CTI's qualification scheme for CDM and GS validation and verification that meets the criteria of EB and GS guidelines for qualification.

SECTION G. Verification opinion

The verification team assigned by the VVB (CTI) concludes that the 1st periodic verification of GS project activity "Sapphire 49.5 MW Wind Farm Project" in Pakistan, as described in the approved GS4GG PDD and final version of monitoring report, meets all relevant requirements set by the Gold Standard for the Global Goals Principles and Requirements and relevant guidance provided by CMP, CDM and relevant guidance provided by CMP and the CDM Executive Board.

Due to the project applied issuance of GS CER, the VVB confirmed that the corresponding CERs have been issued by CDM EB, refer to dedicated project weblink for details of issuance of CERs including this monitoring period as below,

<https://cdm.unfccc.int/Projects/DB/BVOI1352703902.61/view>

The project activity was correctly implemented according to selected monitoring methodology and monitoring plan. The collected monitoring data allowed to verify the amount of achieved SDG Impacts. And the project is contributed to sustainability development. Thus, the VVB is pleased to issue a positive verification opinion.

SECTION H. Certification statement

Shenzhen CTI International Certification Co., Ltd (CTI) has performed the 1st periodic verification of the SDG Impacts that have been reported for the GS project activity “Sapphire 49.5 MW Wind Farm Project” in Pakistan for the period 02/08/2019 to 31/12/2020.

The verification is based on the baseline and monitoring methodology ACM0002 “Grid-connected electricity generation from renewable sources” (Version 20.0), the approved GS4GG PDD and the final version of monitoring report. The verification consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up remote verification and interviews with project participants; iii) resolution of outstanding issues and the issuance of the final verification and certification report.

The PPs are responsible for the collection, calculation and determination of the SDG Impacts data in accordance with the monitoring plan and the reporting of SDG Impacts on the basis set out within the project monitoring report.

It is CTI’s responsibility to provide an independent verification statement on the reported SDG Impacts for the project. Based on an understanding of the risks associated with reporting of SDG Impacts data and the controls in place to mitigate these, CTI planned and performed our work to obtain the information and explanations that we considered necessary to provide reasonable assurance that reported SDG contributions are fairly stated.

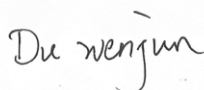
CTI confirms that the SDG Impacts are calculated without material misstatements. Based on the evidence and information that are considered necessary to guarantee that SDG contributions are appropriately calculated, CTI confirms that the SDG contributions from the “Sapphire 49.5 MW Wind Farm Project” during the monitoring period 02/08/2019 to 31/12/2020 as follows:

Monitoring Period Number: 1st

Monitoring period: 02/08/2019 to 31/12/2020

The verified amount of each SDG impact in the PA as per vintage is stated below;

SDG No.	SDG impacts for Vintage year		Total SDG impacts for this Monitoring Period
	02/08/2019 to 31/12/2019	01/01/2020 to 31/12/2020	02/08/2019 to 31/12/2020
SDG 7	23,592.06 MWh net electricity supplied to grid	87,257.13 MWh net electricity supplied to grid	110,849.20 MWh net electricity supplied to grid
SDG 8	20 jobs created	20 jobs created	20 jobs created
SDG 13	13,393 tCO ₂ e	39,344 tCO ₂ e	52,737 tCO ₂ e



Mr. Du Wenjun
Team Leader
25/04/2022



Ms. Liu Jia
Technical Reviewer
25/04/2022

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
Board	Executive Board of the clean development mechanism
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board (the board)
CER	Certified Emission Reductions
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
CSR	Corporation social responsibility
CTI	Shenzhen CTI International Certification Co., Ltd
DNA	Designated National Authority
EPA	Energy Purchase Agreement
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas
GS	Gold Standard
GS4GG	Gold Standard for the Global Goals
GS-TAC	Technical Advisory Committee of GS
MP	Monitoring Plan
MR	Monitoring Report
PA	Project Activity
PDD	Project Design Document
PE	Project Emission
PP	Project Participant
PRC	Post Registration Change
PS	Project Standard
QA/QC	Quality Assurance / Quality Control
SCR	Stakeholder Consultation Report
SD	Sustainable Development
SDI	Sustainability Development Indicator
SDG	Sustainable Development Goals
SDM	SD Matrix
SFR	Stakeholder Feedback Round
SS	Sectoral Scope
SSC	Small-scale
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification Body
VVS	Validation and Verification Standard
WAPDA	Water and Power Development Authority Grid

Appendix 2. Competence of team members and technical reviewers

Mr. Wenjun DU

Satisfies the requirements of competence management system of CTI Certification, and is hereby appointed as:

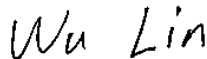
Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	-	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
SS 13: Waste handling and disposal	TA 13.1: Solid waste and wastewater
	TA 13.2: Manure

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:

Wu LIN



Technical Competent Manager

Shenzhen, 01/01/2020

Ms. Liu Jia

Satisfies the requirements of the Certification Body of CTI and is hereby appointed as:

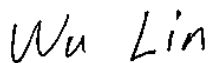
Qualification as						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	√	√

Scope	Technical area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
SS 3: Energy demand	TA 3.1: Energy demand

This appointment is valid for 3 years from its date of approval below and is bound by internal requirements of management system of the Certification Body of CTI.

Approved by:

Wu Lin



Technical competent manager
Shenzhen, 01/07/2019

Appendix 3. Documents reviewed or referenced

No	Author	Title	References to the document	Provider
1.	UPM Umwelt-Projekt-Management GmbH	1 st periodic GS4GG Monitoring Report of "Sapphire 49.5 MW Wind Farm Project"	- Draft Version No. 01, dated 07/04/2022 - Version No. 02, dated 15/04/2022 - Final Version No. 2.1, dated 01/09/2022	UPM Umwelt-Projekt-Management GmbH
2.	UPM Umwelt-Projekt-Management GmbH	1 st periodic GS4GG Emission Reduction Calculation spreadsheet of "Sapphire 49.5 MW Wind Farm Project"	- Draft Version No. 01, dated 07/04/2022 - Final Version No. 02, dated 15/04/2022	UPM Umwelt-Projekt-Management GmbH
3.	UPM Umwelt-Projekt-Management GmbH	Registered GS4GG Project Design document of "Sapphire 49.5 MW Wind Farm Project"	Version 3.2, dated 17/03/2022	UPM Umwelt-Projekt-Management GmbH
4.	PP	Latest approved CDM PDD	Latest approved CDM PDD for the "Sapphire 49.5 MW Wind Farm Project", version 1.5 dated 28/12/2016	UNFCCC website
5.	BV	CDM Validation Report	Validation Report for CDM project "Sapphire 49.5 MW Wind Farm Project" Revision No. 04, dated 30/10/2012	UNFCCC
6.	DOEs	Periodical CDM verification reports and monitoring reports	Periodical CDM verification reports and monitoring reports https://cdm.unfccc.int/Projects/D/B/BVQI1352703902.61/view	UNFCCC website
7.	CTI	GS Validation Report	GS Validation Report for GS project "Sapphire 49.5 MW Wind Farm Project", version 3.0, dated 17/03/2022	GS website
8.	TÜV NORD	Post Registration Report	Post Registration Report for CDM project "Sapphire 49.5 MW Wind Farm Project", version 01, dated 17/01/2017	UNFCCC website
9.	The companies regulation and Commercial Register B of the Local Court of Munich	Business License	Business License of Sapphire Wind Power Co. Ltd. and UPM Umwelt-Projekt-Management GmbH	PP
10.	Project Owner	Letter of Notice to proceed	Letter of Notice to proceed dated on 28/08/2014	Project Owner
11.	Project Owner, REEE (Pvt) Ltd and GOPA International Energy Consultant GMBH	Certificate of Commissioning	Certificate of Commissioning of Complex to the project issued on 21/11/2015	PP
12.	Project Owner and National Transmission &	Energy Purchase Agreement	Energy Purchase Agreement signed on 17/02/2014	PP

	Dispatch Company Ltd. ⁴			
13.	Project Owner	Meter Reading Records	Monthly Meter Reading Records for main meters and backup meters covering this monitoring period	Project Owner
14.	National Transmission & Dispatch Company Ltd.	Meter change record	Meter change record for changing the back up meters	Project Owner
15.	National Transmission & Dispatch Company Ltd.	Receipts	1. Monthly Electricity sales receipts covering this monitoring period 2. Monthly Electricity purchases receipts covering this monitoring period	Project Owner
16.	National Transmission & Dispatch Company Ltd.	Calibration certificates	Calibration certificates for all the monitoring meters covering this monitoring period	Project Owner
17.	Sapphire Wind Power Co. Ltd.	LOG	Operation and management of project logs covering this monitoring period	Project Owner
18.	Ministry of Petroleum & Natural Resources	Pakistan Energy Yearbooks	Pakistan Energy Yearbooks 2015, 2016, 2017, 2018 and 2019	Project Owner
19.	Sapphire Wind Power Co. Ltd.	Training and Competence Records	Training and Competence Records of project	Sapphire Wind Power Co. Ltd.
20.	Sapphire Wind Power Co. Ltd. and employees	Certificates of worker staffs	Labor Certificates signed with 20 employees for implementation of this project	Sapphire Wind Power Co. Ltd.
21.	Sapphire Wind Power Co. Ltd.	Declaration of no double counting	Declaration of no double counting dated on 15/04/2022	Sapphire Wind Power Co. Ltd.
22.	Sindh Environment Protection Agency	Statement	Statement on the environment impacts of the project implementation issued by Sindh Environment Protection Agency dated in March 2021	Sapphire Wind Power Co. Ltd.
23.	Sapphire Wind Power Co. Ltd.	Monitoring surveys with workers	Monitoring surveys with workers conducted on 11/03/2020 and 01/02/2021	Sapphire Wind Power Co. Ltd.
24.	UPM Umwelt-Projekt-Management GmbH	Purchase Order of GS CER	Purchase Order of GS CER issued by buyer	Sapphire Wind Power Co. Ltd.
25.	PP	Videos and photos	Videos and photos of project site, main equipment and project implementation, monitoring equipment, etc.	PP
26.	National standard	National standard for meters and calibration	IEC 62052-11, IEC 62053-22 and IEC – 62053-23	Project Owner
27.	GE	Equipment technical specification	Equipment technical specification	PP
28.	UNFCCC	CDM Approved Methodology ACM0002	"Grid-connected electricity generation from renewable sources" (Version 20.0)	UNFCCC website
29.	GS	GS4GG MR template	Gold Standard for Global Goals Monitoring Report Template	GS Website

⁴ Refer to the footnote 9 in PDD for the function of National Transmission & Dispatch Company Ltd.

			version 1.1 in October 2020	
30.	GS	Gold Standard for the Global Goals Principles and Requirements	Version 1.2	GS Website
31.	GS	Gold Standard for the Global Goals Safeguarding Principles & Requirements	Version 1.2	GS Website
32.	GS	Gold Standard for the Global Goals Renewable Energy Activity Requirements	Version 1.4	GS Website
33.	GS	Gold Standard for the Global Goals Stakeholder Consultation and Engagement Requirements	Version 1.2	GS Website
34.	GS	COVID 19: INTERIM MEASURES	RU_2021-v5_COVID-19_Interim-measures	GS website
35.	UNFCCC	Methodological Tool	"Tool to calculate the emission factor for an electricity system" (version 7.0)	UNFCCC Website
36.	UNFCCC	Validation and Verification Standard	CDM validation and verification standard for project activities (Version 03.0)	UNFCCC
37.	Google	Google Earth Map	Google Earth Map earth.google.com/	Website
38.	UNFCCC	Project CDM dedicated weblink	https://cdm.unfccc.int/Projects/DB/BVQI1352703902.61/view	UNFCCC
39.	Gold Standard Organization	Gold Standard	http://www.goldstandard.org/	Website
40.	IPCC	IPCC publications	2006 IPCC Guidelines for National Greenhouse Gas Inventories www.ipcc-nggip.iges.or.jp	Website
41.	UNFCCC	UNFCCC	http://cdm.unfccc.int	Website
42.	VCS	VCS	http://www.v-c-s.org/	Website
43.	IREC	IREC	https://www.irecstandard.org/	Website

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

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	01	Section No.	-	Date : 13/04/2022
Description of FAR				
The effectiveness of the grievance mechanism shall also be checked by interviewing the local stakeholders during the initial GS verification of the project.				
Project developer response				Date : 15/04/2022
In the monitoring questionnaire to local stakeholders, the access of grievance and continuous input mechanism was asked and answered by stakeholders. It's found that, all of the respondents know the methods how they provide their comments/suggestions and the grievance mechanism is effective.				
Documentation provided by project developer				
/25/				
VVB assessment				Date: 22/04/2022
As confirmed through the remote verification interview with the local stakeholders, it is verified that the inputs/grievances mechanism has been in place. As per remote verification process checking the photo of comment book/25/ and internet/email address which has been provided and interview with PP and local stakeholders, it is verified that they have access to provide issues or comments through given methods. And via checking the different approach, it is verified that there was no input/grievance received during this monitoring period.				

FAR ID	02	Section No.	-	Date : 13/04/2022
Description of FAR				
All relevant registries (domestic and international) that could hold RECs from the project activity e.g. RECs, I-RECs etc. shall also be checked for the avoidance of double counting during the initial GS verification of the project.				
Project developer response				Date : 15/04/2022
Yes, the project owner is aware that for a given vintage, a registered Gold Standard project can request the issuance of the emission reductions under only one standard/certification scheme. The project is registered as CDM and GS on 14/11/2012 and 04/02/2022, respectively. Currently, the project is seeking for GS labelling on issued CERs for the monitoring period (02/08/2019-31/12/2020). Apart from GS and CDM, no other voluntary or compliance standard has been applied. In addition, GS CERs and GS VERs and RECs/I-RECs will not be issued for the same monitoring period of the project, to avoid double Counting.				
Documentation provided by project developer				
/1/ version 2 /21/				
VVB assessment				Date: 22/04/2022
The no double counting demonstration has been added in section C of the MR as per below CAR 03. Refer to assessment in CAR 03. FAR 02 is closed.				

Table 2. CL from this verification

CL ID	01	Section no.	C	Date: 13/04/2022
Description of CL				
In the section C, the description of monitoring system only related to the Emission Reduction but not all the SDG monitoring parameters, clarification is requested.				
Project developer response				Date: 15/04/2022
Revised. The description of monitoring related to SDGs have been included. See revised GS MR (version 2).				
Documentation provided by project developer				
/1/ version 2				
VVB assessment				Date: 22/04/2022

The revised MR is checked, CTI confirmed that description of monitoring system has been updated to relate to all the SDG monitoring parameters.
Refer to section E.5 of this report for detail assessment of the monitoring system.
CL 01 is closed.

CL ID	02	Section no.	E.6	Date: 13/04/2022
Description of CL				
In the section E.6, the comparison of actual SDG Impacts with estimates in approved PDD is not in detail analysis, the impacts to SDG 7 and 13 are found proportionally lower than estimated value, clarification is requested.				
Project developer response				Date: 15/04/2022
Yes, the comparison of each SDG impact during this monitoring period with the estimates as per registered PDD has been included in the MR (version 2). The reasons of the lower impacts to SDG 7 and SDG 13 are included in the GS MR (version 2).				
Documentation provided by project developer				
/1/ version 2 /17/				
VVB assessment				Date: 22/04/2022
The revised MR is checked, it is confirmed that the related information has been added into this section. For SDG 7, the actual outcome during this monitoring period is 43.2% lower than the estimated value due to the poor wind resources confirmed by interview with project owner and operation staff and checking the wind source data in operation log/17/, hence it is reasonable that the actual value is lower than estimated in PDD/3/. For SDG 8, there is no difference by comparison of actual value of outcome with estimates in PDD/3/. For SDG 13, It is confirmed that the actual value during this monitoring period was found to be 40% lower than ex-ante estimated value the for this project during this monitoring period, via comparing with the PDD/3/ estimated value, it is verified that due to the poor wind resources confirmed by interview with project owner and operation staff and checking the wind source data in operation log/17/, Hence it is verified that the actual value lower than estimated in PDD/3/ is reasonable and acceptable. CL 02 is closed				

Table 3. CAR from this verification

CAR ID	01	Section no.	B.1.1	Date: 13/04/2022
Description of CAR				
In the section B.1.1, the FAR raised during validation process is not demonstrated.				
Project developer response				Date: 15/04/2022
Yes, responses to FAR 01 and FAR 02 have been included in the GS MR (version 02).				
Documentation provided by project developer				
/1/ version 2				
VVB assessment				Date: 22/04/2022
The revised MR is checked, it is confirmed that the demonstration of two FARs raised in validation report/7/ have been added. Refer to Table 1 in Appendix 4 of this report for detail assessment of two FARs. CAR 01 is closed.				

CAR ID	02	Section no.	C	Date: 13/04/2022
Description of CAR				
In the section C, the management structure described in the section C is not related to the project implemented as a GS case.				
Project developer response				Date: 15/04/2022
Revised. The management structure has been described relevant to GS. See GS MR (version 2)				
Documentation provided by project developer				
/1/ version 2				
VVB assessment				Date: 22/04/2022
The revised MR is checked, CTI confirmed that the management structure has been updated with related description of GS monitoring. The organizational structure is considered sufficient to fulfil the monitoring requirements of the methodology and GS SDG monitoring request, and ensure that all the SDG impacts verified for this monitoring period which is verified by remote verification and interview with PP and				

monitoring staffs. CAR 02 is closed.

CAR ID	03	Section no.	C	Date: 13/04/2022
Description of CAR				
In the section C, the demonstration of avoidance of double counting during this monitoring period of the project is missing.				
Project developer response				Date: 15/04/2022
Yes, revised. It's indicated in the GS MR that, GS CERs and GS VERs and RECs/I-RECs will not be issued for this monitoring period of the project, to avoid double Counting. See GS MR (version 2)				
Documentation provided by project developer				
/1/ version 2 /21/				
VVB assessment				Date: 22/04/2022
The revised MR is checked, CTI confirmed that the demonstration of avoidance of double counting during this monitoring period of the project is added. The project site has unique graphical coordinates which can be identified clearly if the project applied other carbon scheme, and the project owner signed declaration letter regarding no double counting. Via checking the declaration/21/, CTI confirmed that the project owner is aware that for a given vintage, a registered Gold Standard project can request the issuance of the emission reductions under only one standard/certification scheme. The project is registered as CDM and GS on 14/11/2012 and 04/02/2022, respectively. Currently, the project is seeking for GS labelling on issued CERs for the monitoring period (02/08/2019-31/12/2020). Apart from GS and CDM, no other voluntary or compliance standard (regardless of domestic or international) has been applied. Furthermore, the VVB has checked possibilities of double counting by reviewing all relevant registries including VCS/42/ and other GHGs programs such as EU ETS, IREC/43/ or subnational, various regional schemes. It is confirmed that there is no potential exists for Double Counting of emissions reductions due to issuance of Gold Standard CERs/CO2-certificates from the considered project activity. It is concluded that the PP has avoided the double counting to ensure the ER calculation is conservative. Thus the risk of double counting is unlikely to happen. CAR 03 is closed.				

CAR ID	04	Section no.	D.2	Date: 13/04/2022
Description of CAR				
In the section D.2, for parameter EG _{facility,y} , 1. The SDG indicator is not listed consistent with PDD. 2. The values for EG _{facility,y} listed in the table are not consistent with the ER sheet. 3. The cross-check result is missing.				
Project developer response				Date: 15/04/2022
1. Yes, revised in line with the PDD. 2. Yes, the values have been corrected in line with the ER sheet. 3. The crosscheck result is included. See GS MR (version 2)				
Documentation provided by project developer				
/1/ version 2 /13/ /15/				
VVB assessment				Date: 22/04/2022
1. The revised MR is checked, CTI confirmed that the SDG 7 has been added which is confirmed in line with PDD. 2. The revised MR is checked, it is copy mistake, CTI confirmed that the values updated in line with the ER sheet. 3. The revised MR is checked, CTI confirmed that the cross-check result is added. The monthly meter reading records/13/ have been cross-checked with values in monthly receipts of power sales/purchase/15/ and verified as consistent. CAR 04 is closed.				

CAR ID	05	Section no.	D.2	Date: 13/04/2022
Description of CAR				

In the section D.2, for parameter Number of jobs created,	
1. The source of data is not in line with the PDD.	
2. The monitoring results are not listed in line with the monitoring frequency.	
3. The time for conducted monitoring survey with worker is missing.	
Project developer response	Date: 15/04/2022
1. Yes, revised in line with the PDD.	
2. Revised. The monitoring survey has been carried out annually as per the registered PDD.	
3. Added. The survey date of each survey has been included in the GS MR (version 2).	
Documentation provided by project developer	
/1/ version 2	
VVB assessment	Date: 22/04/2022
1. The revised MR is checked, CTI confirmed that the source of data is updated in line with PDD.	
2. The revised MR is checked, CTI confirmed that the monitoring results have been listed in line with the monitoring frequency.	
3. The revised MR is checked, CTI confirmed that time for conducted monitoring survey with worker is added.	
Refer to section E.6.2 of this report for detail assessment of this parameter.	
CAR 05 is closed.	

CAR ID	06	Section no.	E.4	Date: 13/04/2022
Description of CAR				
In the section E.4, the net benefits for all the SDG are not listed in vintage.				
Project developer response				Date: 15/04/2022
Yes. The net benefits for all the SDG (SDG 7, 8 and 13) for each vintage year is included in GS MR (version 2).				
For SDG 13, the emission reductions achieved during this monitoring period are 13,393tCO ₂ e (Vintage 2019) and 39,344 tCO ₂ e (Vintage 2020);				
For SDG 7, Net amount of electricity supplied to grid during this monitoring period are 23,592.06MWh (Vintage 2019) and 87,257.13MWh (Vintage 2020);				
For SDG 8, 20 jobs are created for vintage 2019 and vintage 2020, respectively.				
Documentation provided by project developer				
/1/ version 2				
VVB assessment				Date: 22/04/2022
The revised MR is checked, CTI confirmed that the net benefits for all the SDG are listed in vintage which are verified as correct.				
CAR 06 is closed.				

CAR ID	07	Section no.	F	Date: 13/04/2022
Description of CAR				
In the section F, for Safeguarding Principle 9.4 and 9.1,				
1. What the question was asked with worker is not specified.				
2. The time for conducted monitoring survey with worker is missing.				
Project developer response				Date: 15/04/2022
For Safeguarding Principle 9.4 and 9.1,				
1. Yes, the question is described in the MR (version 2).				
Monitoring survey with workers. Monitoring survey questionnaire was provided to all worker staffs on 11/03/2020 and 01/02/2021, respectively. In the questionnaire, workers were asked that,				
The implementation of the project has impact on the air quality and dust emissions are generated during project implementation, as far as you know, what measures have been taken by the project plant to reduce the impact on the dust emissions?				
☐ Frequent watering of exposed area or worksite of excavation to maintain surface wet, if necessary and practical;				
☐ Imposition of speed controls for vehicles and unpaved site roads;				
☐ Well-maintained diesel-powered mechanical equipment to avoid black smoke emissions;				
☐ Shut-down of diesel-powered mechanical equipment or trucks inside the worksites when they are not in operation;				
☐ Other, please specify.				
You know the implementation of the project has impact on the soil quality, as far as you know, what measures have been taken by the project plant to reduce the impact on soil?				

☐ Keep open areas of excavation to a minimum; ☐ Maintain sediment control structures along drainage lines to prevent the transport of sediment from the site; ☐ Stockpiles of materials should be located away from drainage lines and formed with sediment control structures placed immediately down slope; ☐ Control drainage in areas of construction areas using a water truck; ☐ Minimization of traffic in construction zones and use of a dedicated parking area, i.e. site compound; ☐ Revegetate disturbed areas i.e. around turbine foundations as soon as practical ☐ Other, please specify.
Each worker staff filled out the questionnaire and was allowed to be anonymous. 2. Yes. The survey conduction dates are included in MR (version 2).
Documentation provided by project developer
/1/ version 2 /23/
VVB assessment Date: 22/04/2022
1. The revised MR is checked, CTI confirmed that the question has been listed in line with the questionnaire/23/. 2. The revised MR is checked, CTI confirmed that time for conducted monitoring survey with worker is added and confirmed as correct by checking the survey questionnaires/23/. Refer to section E.8 of this report for detail assessment of this parameter. CAR 07 is closed.

CAR ID	08	Section no.	F	Date: 13/04/2022
Description of CAR				
In the section F, for Safeguarding Principle 3, 1. What the question was asked with worker is not specified. 2. The time for conducted monitoring survey with worker is missing.				
Project developer response				Date: 15/04/2022
For Safeguarding Principle 3, 1. Yes, the question is described in the MR (version 2). Monitoring survey with workers. Monitoring survey questionnaire was provided to all worker staffs on 11/03/2020 and 01/02/2021, respectively. In the questionnaire, workers were asked that, What measures have been taken by the project plant to eliminate safety hazards related to the project implementation? ☐ Maintain good housekeeping; ☐ Dispose of left over materials; eliminate over-head work of welders and burners; ☐ Use good lighting to illuminate work areas, pathways, corridors, hall ways, working platforms, have a supply of flashlights; ☐ Keep work areas cleared, dry, sanded, use personal protective equipment; ☐ Other, please specify Each worker staff filled out the questionnaire and was allowed to be anonymous. 2. Yes. The survey conduction dates are included in MR (version 2).				
Documentation provided by project developer				
/1/ version 2 /23/				
VVB assessment				Date: 22/04/2022
1. The revised MR is checked, CTI confirmed that the question has been listed in line with the questionnaire/23/. 2. The revised MR is checked, CTI confirmed that time for conducted monitoring survey with worker is added and confirmed as correct by checking the survey questionnaires/23/. Refer to section E.8 of this report for detail assessment of this parameter. CAR 08 is closed.				

Table 4. FAR from this verification

FAR ID	XX	Section No.		Date: DD/MM/YYYY
Description of FAR				

No FAR from this verification	
Project developer response	Date:
Documentation provided by project developer	
VVB assessment	Date: