



**Verified Carbon
Standard**

ULUABAT HYDROELECTRIC POWER PLANT



Document Prepared by Earthood Services Private Limited

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Summary:

Earthhood Services Private Limited (ESPL) has been contracted by Akenerji Elektrik Üretim A.Ş. to carry out an independent verification of their VCS project "Uluabat Hydroelectric Power Plant" with VCS ID (536) against VCS Standard v4.3/11/. The project is situated 55 kilometers southwest of the city center in the Marmara Region in Western Turkey, within the boundaries of the province of Bursa. Nilufer Creek is on its eastern border, Emet Creek is on its western border, and Orhaneli District and Buyuk Orhan Town are on its southern border.

The verification is a complete evaluation of a project activity's implementation in relation to the relevant VCS requirements by an impartial third party. It also includes an assessment of the project activity's real ER sheet. The project activity involves implementation of the Orhaneli Creek's hydraulic resources to generate power to fulfil the increasing demand for electricity while lowering GHG emissions and assuring a long-term supply of potable water for Bursa's city and industrial area.

The project activity has provided 647,919.70 MWh of power during the current monitoring period, which runs from 01/04/2018 to 30/09/2020 (both days included). This has resulted in 364,122 tCO₂e of GHG reductions.

The scope of the verification includes conforming the implementation of the monitoring plan with the registered MR, version 02, dated 26/08/2022, and the application of the monitoring methodology ACM0002 "Grid-connected electricity generation from renewable sources" version – 10, "Tool for the demonstration and assessment of additionality", Version - 05.2 and "Tool to calculate the emission factor for an electricity system", Version - 01. 1. The verification is being conducted for the monitoring period 01/04/2018 to 30/09/2020.

The verification consists of three phases:

- Desk review of the project
- Follow-up interview with the Project Proponent/ Project Developer
- Resolution of outstanding issues and issuance of final verification report and opinion.

The overall verification, from the contract review to verification report & opinion, was conducted following ESPL internal quality procedures. A risk-based approach has been followed to perform this verification activity and there are significantly low uncertainties associated with this verification.

A total of two CARs, one CL, and zero FARs were raised throughout the verification; these are covered in more detail in Appendix III. Reviewing the monitoring report and other documentation pertaining to baseline and monitoring methods, gathering further background data, and conducting extra remote interviews with project owners have given ESPL enough justification to confirm that the specified VCS requirements have been met. ESPL attests to the existence of the monitoring systems and the accuracy of the emission reduction

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1 INTRODUCTION

1.1 Objective

The objective of this verification is to thoroughly examine and independently confirm the project's emission reductions. The verification process includes review of all the supporting documentation that may be needed to substantiate the sources and sinks of greenhouse gases (GHGs) that are located within the project boundary, the procedures involved, the metrics for qualifying these monitored parameters, as well as their level of reliability, and the validity of the supporting documents shared at each stage of the verification process. Verification is an independent assessment and retrospective judgement by ESPL of the observed reductions in GHG emissions that have taken place during the current monitoring period. The formal confirmation from ESPL that this project activity has produced a total of 364,122 tCO₂e as certified emission reductions is known as certification. This verification activity's objective is to evaluate with verifiable facts:

- if the monitoring report's data are transparent and complete and in the event that the project activity complies with the monitoring report and the registered PD/01/.
- if the monitoring report version 02 from 26/08/2022 complies with the guidelines of the monitoring plan for the registered Project Description (PD) and the authorised methodology.

1.2 Scope and Criteria

The independent and objective assessment of the project activity's implementation and the ex-post calculation of the observed emission reduction in GHG emissions are the main components of the verification's scope. The registered project description/1/, the ER calculations/3/, the applied methodologies/7/, and any supporting documentation submitted by the project proponent to the verification team are used to assess the project.

During the verification, following criteria was adopted:

- a) The project activity has been carried out and run-in accordance with the registered PD, and all the project's physical characteristics (including technology, project equipment, monitoring and metering equipment), have been put in place
- b) Documents are checked and verified in accordance with the most recent applicable version of the completeness checklist for requests for the issuance of VERs, verifiable, and in accordance with applicable VCS requirements. This includes the monitoring report and any other supporting documents that have been provide.
- c) Verification of the monitoring methods and systems put in place - The actual monitoring systems and processes adhere to the authorised methodology, any revised approved monitoring plan, and the monitoring systems and procedures indicated in the monitoring

1.3 Level of Assurance

- ☒ Reasonable Level of Assurance

☐ Limited Level of Assurance

Reasonable level of assurance includes the understanding that there is remote likelihood that material misstatements will not be prevented or detected on a timely basis. To achieve reasonable assurance, the auditor needs to obtain sufficient appropriate evidence to reduce audit risk to an acceptable low level.

The assessment team drafted a verification report. An independent technical review team (one or more members) conducts a second examination of the information in the report to determine if the internal policies established and implemented by ESPL were followed correctly and to produce an opinion or conclusion that complies with the relevant VCS criteria. The technical review team must collectively have the necessary technical knowledge in all of the technical fields and sectoral focuses to which the project relates. Independent from the verification team are the members of the technical review team. The technical review team members are independent of verification team.

Additional details for how a reasonable level of assurance was achieved are specified in section 2.3 and 2.4 of this report.

1.4 Summary Description of the Project

The "Uluabat Hydroelectric Power Plant" VCS project activity (VCS Project ID - 536) involves the installation of a hydroelectric plant project (HEPP) in the Marmara Region of Western Turkey, inside the boundaries of Bursa Province, and about 55 km southwest of the city centre. Nilufer Creek is on its eastern border, Emet Creek is on its western border, and Orhaneli District and Buyuk Orhan Town are on its southern border.

In Turkey's Bursa city, Akenerji Elektrik Uretim A.S constructed the Uluabat Hydroelectric Power Plant, which is situated on Orhaneli Creek. In accordance with the electricity generation permit, the project's two vertical axis Francis turbines, each with an installed capacity of 50 MWe, have a combined capacity of 102.08 MWm (or 100 MWe), and it also promotes the region's sustainable economic growth. When taking into account the anticipated annual electricity generation listed in PD, the estimated electricity generation for this monitoring period was 2,500,866 MWh. However, 647,919.70 MWh of net electricity generation was observed during this monitoring. Thus, for this monitoring, the estimated emission reduction was 499,487 tCO₂ whereas the actual accomplished value was calculated to be 364,122 tCO₂. The project harnesses the hydro energy to generate and supply electricity to the grid, and therefore replacing the electricity that would have been generated through the carbon intensive fossil-fuel power plant or by addition of new units in the future. Hence, reducing the probable GHG emissions produced. The implementation of the project has been verified through various photographs and video of the project site shared by the PP/22/.

The start date of the project is 27/10/2010, which is also the commissioning date of the plant, verified through the commissioning certificate. The project is registered for a crediting period of 10 Years. The duration of the crediting period is 27/10/2010 to 26/10/2020.

Location of the project lies between 28° 46' - 28 ° 43' E longitudes and 40° 03' - 40° 09' N latitudes was verified through google map/14/ and found to be consistent with the data provided in the VCS MR/2/.

Since its commissioning and throughout the current monitoring period, the project activity has been in operation. During the current monitoring period (i.e., from 01/04/2018 to 30/09/2020), the project activity generated a total of 647,919.70 MWh of clean electricity, which was confirmed through monthly Energy Import Invoices /17/ and which is found to be consistent with the ER sheet /3/.

The tables below provide technical details of the implemented technologies.

Table: Technical properties of turbines

Component	Property
Turbine type	Francis (Two turbines)
Installed capacity of each turbine	50 MWe
Turbine firm	Voith (Two turbines)
Rotation	600 r / min
Number of turbines	2
Serial numbers of the turbines	19397 & 19398
Production year	2008
Average flow rate	19 m ³ / s

2 VERIFICATION PROCESS

2.1 Method and Criteria

The ESPL assessed and determined whether the proposed implementation and operation of the project activity and the steps taken to report the emission reductions comply with the VCS guidelines and the criteria. The verification consists of the following three phases:

- A desk review of the VCS PD/1/ and VCS MR/2/.
- Remote site Visit/08/ (by Microsoft teams and telephonic calls) follow up interviews with PP and clients.
- The resolutions of outstanding issues and issuance of the final report and opinion.

2.2 Document Review

Verification is primarily done by reviewing the documents that were submitted at different stages of assessments. As described in detail in appendix 1 of this document, the papers are compared to the registered VCS PD /01/ & MR/02/, Validation report/20/, and related documents. Internal ESPL processes carry out the evaluation in accordance with the most recent VCS criteria. Cross-checks are made between the data in the Monitoring report and the VCS PD/1/, Validation Report/20/,

supporting documentation given by the PP, data from sources other than those used, and independent background checks.

2.3 Interviews

The assessment team conducted a remote audit for the third verification of this project. The PP representatives who oversaw project activity monitoring, data collecting and management, and QA/QC procedures were questioned as part of the virtual audit that was carried out on September 13, 2022. Additionally, local stakeholders were also interviewed. The table below includes information on the interviewees:

Name	Organization	Topics Covered	Team Member
Ece Kanbur	GTE	Project implementation, start date asper the VCS requirements.	Shifali Guleria, Satya Ranjan Panda, Kubra Agriman
Tibet Aydin	Akaenerji – Carbon Offset Sourcing and Portfolio Management	Electricity Generation Records Reliability & accuracy of readings considered for emission reduction calculations, Calibration procedure.	
Mehmet Kucuk	Operations Manager	Consideration of monitoring period, monitoring methodology, project documentation and emission reduction calculations.	
Burak Can Akyol	Akenerji – Generation Performance Analysis Specialist	Monitoring and measuring system,Collection of measurements Observations of established practices Data Verification of monitoring parameters.	
Erdem Erkin Dede	Plant Manager	QA/QC procedures, data management, internal audits to maintain data quality& reliability, maintenance Practices.	
Mehmet Erdoğan	Plant worker		
Kadri Temel	Villager	Local stakeholder consultation, impact of project on surrounding regions and population	
Fatma Temel	Villager		

2.4 Site Inspections

The current verification was based on the alternative virtual means instead of physical site visit. This was deemed sufficient to confirm the distribution, replacement, installation, and measures adopted by the PP (representative of PP). Approach was in accordance to para 4.1.2 of the VCS Standard, version 4.3/11/, the VVB used other standard auditing techniques during the verification, including interviews of listed personnel:

Assessment Criteria	Means of verification/source documents	Assessment opinion
Description of project activity	Commissioning Certificate	The information with reference to project capacity, technology, plant

	Technical specifications provided by technology supplier for the project activity VCS validation and previous verification reports Virtual site visit conducted on 13/09/2022.	equipment and commissioning dates as provided in section 1.1 of MR are found consistent with the documents.
Compliance of the project implementation with the registered project description	Monthly JMR & Invoices issued by the state/17/ Geographical co-ordinates of project activity verified through Google Map/14/ VCS validation and previous verification reports /20/ Virtual site visit/08/ conducted on 13/09/2022.	Monthly JMRs/17/ issued by the state indicate the following information: Name of the pooling substation, Capacity of project and name of project participant. Location of project is verified through Google Map/14/ and found consistent with registered VCS PD/01/. All the information's regarding the project implementation as discussed above are further verified through VCS PD/01/ and found consistent.
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	Monthly JMR & Invoices issued by the state/17/ Virtual site visit/08/ conducted on 13/09/2022.	Compliance of monitoring plan/01/ is verified through JMR & Invoices/17/. The methods used for measuring, recording, storing, aggregating, and reporting the data on monitored parameters are verified through registered validation and previous verification report/20/ and virtual interviews with site personnel/08/. Procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mentioned in the MR/02/ is confirmed through virtual conversations with site personnel/08/.
Compliance with the calibration frequency requirements for measuring instruments	Calibration certificates of meters/04/ Photograph of energy meters indicating sr. No, accuracy class, make /19/.	Calibration frequency and energy meter specifications (Sr. No, make, accuracy class) is verified through calibration certificates/04/ and previous VCS verification report/20/.

		Responsibility of calibration and maintenance of energy meters is solely under control of TEIAS this is verified through the previous verification report/20/.
Assessment of data and calculation of emission reductions or net removals	Monthly JMR & Invoices issued by the state/17/	Monthly values of monitoring parameter used in ER calculation/03/ are verified through share certificates/JMRs and cross-checked from the raised invoices/17/.

2.5 Resolution of Findings

A total of 01 CLs and 2 CAR were raised and successfully closed for this verification. All the findings that are raised and communicated to project participants during the validation and are included in Appendix II. The section also includes the responses provided by the project participants, along with an assessment by the verification team if it was closed out or otherwise.

The MR was revised to account for the CARs and CLs issued by ESPL, which was rechecked with the documentary evidence and was found to be inline. After reviewing the revised MR/2/ and estimated GHG emission reductions calculation sheet/3/; addressing the findings raised and outstanding concerns, final verification report and opinion was issued by Earthood.

2.5.1 Forward Action Requests

This is the third verification for the project activity. No FARs are raised during the current monitoring period. There are also no open FARs raised during the previous verification report applicable for the current monitoring period.

2.6 Eligibility for Validation Activities

Since, no validation was performed during the current verification, this section is not applicable.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity is registered under VCS, with VCS ID 536, titled "Uluabat Hydroelectric Power Plant" on 27/10/2010. The ER's generated due to the project activity are not being claimed in any other GHG program. The VVB has independently assessed the CDM project webpage and also, checked other registries like GS and GCC for the registration of the project activity.

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period.

3.3 Project Description Deviations

No project description deviations were reported or identified during this monitoring period. Deviations validated and verified during previous monitoring periods have been discussed below:

- The characteristics and design of the project have not changed. However, as stated in the monitoring report, the other organisation working in the project as a carbon consultant was originally listed as Global Tan Energy Limited in the project description but has since changed to GTE Karbon Sürdürülebilir Enerji Eitim Danışmanlık ve Ticaret A. The change in the other entity engaged in the project as a carbon consultant has no bearing on the project's compliance with the VCS rules and requirements, nor does it affect the applicability of the methodology, additionality, or the suitability of the baseline scenario.
- Second, although there hasn't been any change to the project's MWe capacity, there has been a change in the MWh capacity of the project activity, as confirmed during the first verification procedure and through the generation licence of the project. The modification made during the earlier verification procedure had no effect on the methodology's application, additionality, or the suitability of the baseline scenario.
- Thirdly, PP had been given the project for the full 48 years and 6 months that were specified under the project's generation licence, and this was also the case during the initial verification period. The registered PD had stated that the length was 49 years. The methodology's applicability, additionality, and the suitability of the baseline scenario are unaffected by the six-month discrepancy that was available during the last verification procedure.
- In addition, the reservoir area layout drawing (General Directorate of State Hydraulic Works (DSI): General Layout Plan of Cinarcik Dam) verified the surface area of the river prior to the project's implementation and subtracted it from the reservoir area, and the project emissions are neglected in this monitoring period in accordance with ACM0002 version 10.0/07/ because of the increase in the power density.

3.4 Grouped Project

This is not a grouped project activity. Hence, this section is Not Applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The following criteria were used to evaluate the project's implementation:

Between the project description and its implementation, there are no significant differences. This has been confirmed using a variety of sources, including data from MR/2/, calibration certifications for the main metre and check metre, pictures and videos of the site, and registered PD/1/ & MR/2/.

It is noted that the company initially known as Global Tan Energy, which was stated in the registered PD and during the initial monitoring period, has changed its name to GTE KARBON SÜRDÜRÜLEBLR ENERJ ETM DANIMANLIK VE TCARET A.Ş. Although the name is changed, the company remains the same.

The monitoring plan's implementation status was examined to see whether it was complete, which included:

- The inspection of the process and schedule for obtaining, recording, compiling, and analysing the Monitored data and parameter/02/.
- Monthly electricity export invoices /17/,
- Monthly electricity import invoices /17/, along with the data provided in the ERSheet/3/,
- review of information provided in the MR/2/,
- review of calibration certificates/4/ and frequency for the equipment and it was cross-checked with the project description/1/,
- Discussion of the implementation during the Remote site visit/8/ conducted on 26/09/2022 (Section 2.3) were adopted by the verification team.

The auditing team came up with the conclusion that there were no material discrepancies between the actual monitoring system and the monitoring plan described in the PD/1/ & MR/2/ and the applied methodology/7/ based on the aforementioned auditing measures. This was confirmed by reviewing the data in MR/2/ and cross-checking it with the PD/1/ and the applied methodology "ACM0002"/7/.

The Project has been added to the VCS programme (VCS ID 536). The CDM project webpage/10/ and searches of other registries have confirmed that the ERs generated are being claimed in the VCS programme. Additionally, the PP has made the same claim and declared it in the monitoring report.

The PP, has clearly stated that the GHG emissions reduction or removals generated by the project are not the part of emission trading program or any other mechanism that includes GHG allowance trading.

The project is contributing to 3 SDGs

- SDG 7 – Increase in renewable energy share in the total energy consumption
- SDG 8 – Increase in job opportunities around the project area
- SDG 13 – Reduction in GHG emissions as a result of switching to clean technologies

The project activity is a grid-connected hydro power plant which is contributing to sustainable development by reducing the GHG emission, that would have been emitted from the project baseline. Based on above, it can be concluded that the project has been implemented as described in VCS PD/1/ and no discrepancies has been found in this regard. The project has been functioning since 27/10/2010. The project will be credited for 10 years. 27/10/2010–26/10/2020 is the first crediting period.

Assessment team concludes the following:

- There are no material discrepancies between project implementation and the project description provided in the registered PD/01/.
- The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters) is appropriate.
- There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/07/.
- The project has not participated or been rejected under any other GHG programs since validation or previous verification/2/.
- The project has not received or sought any other form of environmental credit or has become eligible to do so since validation or previous verification/2/.
- The GHG emission reductions or removals generated by the project have not included in an emissions trading program or any other mechanism that includes GHG allowance trading/2/.
- The project activity is complying with indicators for sustainable development as discussed in detail under section 1.11 of MR.

In view of the information as verified above the assessment team can conclude that the project has been implemented as described in the project description.

4.2 Safeguards

4.2.1 No Net Harm

There is no negative impact to any socio-economic conditions of the region due to the project activity. No adverse environmental impact has been envisaged in the project activity. All the necessary clearances government department has been obtained. This project activity will not involve any negative environmental or socio-economic impacts, as the turbines are installed for generation of power using hydro power which is a clean source of energy. Hence, no mitigation measures are required. The Environmental Assessment was done prior to start/construction of the project activity and project was approved based in the study /23/.

4.2.2 Local Stakeholder Consultation

Prior to verification, the project activity underwent local stakeholder consultation which was appropriately carried out to inform the project's design and optimise stakeholder participation during verification. To allow local stakeholders to voice their concerns about potential negative consequences during the implementation and operation of the project activity, the project proponent has put in place a framework for ongoing communication with those stakeholders. For the local individuals to submit their grievances, the project proponent has set up a grievance register at the site office. The evaluation team verified that no negative grievances were received during the current monitoring period by examining a copy of the grievance register kept at site office/18/.

4.3 AFOLU-Specific Safeguards

This section is Not Applicable as this project activity is a non-AFOLU project activity type.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The registered PD 1/ and the monitoring report/3/ have both been followed for the project monitoring. At the site, the monitoring strategy outlined on the registered PD/1/ was being followed. The information flow (from data generation to recording, calculation, and reporting for these parameters) in the MR/2/ has been verified by the assessment team. This information flow was verified through interviews with the PP representative during the remote site visit/8/ and the information provided during the remote audit in accordance with the registered PD/1/ and VCS standards and requirements/11/,/12/.

It was discovered that the emissions reduction calculation was accurate. In section 4.5 of this report, a list of all the parameters' reported and verified values is provided.

In the ER sheet/3/, the PP has provided the full set of data for all the monitored parameters. The verification report's section 4.5 describes how this data was confirmed. The formulas and procedures utilised to determine the baseline emissions, project emissions, and leakage emissions are suitable and in accordance with the applicable methodology ACM0002/7/.

The ex-ante parameters were estimated based on reported values in registered PD/1/ & MR/2/ and in accordance with the method to calculate emission factor for an electricity system/10/. The net emission decrease over the current monitoring period, from 01/04/2018 to 30/09/2020, was verified to be 364,122 tCO₂e, according to ER sheet/3/ provided by the PP.

The applicable methodology ACM0002 v10/7/ is applied to in the calculation process and formulas used to determine baseline emission, project emission, and leakage emissions.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

The ERs produced for the project activity were based on the hydropower's contribution to the production of energy and subsequent displacement of fossil fuels for electricity generation. The PP has provided all necessary arguments against to the information related to the parameter under observation. The report's appendix I contains a list of the records that were examined. In order to confirm the reported values in the ER sheet/3/, the assessment team evaluated the value of the parameter, net electricity generation supplied by the project plant/unit to the grid, using import and export electricity invoices/17/ shared by the PP. The values were found to be consistent. According to the monitoring plan outlined in the PD/1/ & MR/2/ and the monitoring methodology ACM0002/7/, the project activity is being monitored in accordance with plan. The system works well and is dependable. This section has talked about ex-ante and monitored parameter verification.

Assessment of Data and parameters:

Ex-Ante parameteres:

The assessment of ex-ante parameter has been carried out as method described in below table

Parameter	Value						Assessment Team Remark	
EG _{y,Total} (MWh)	183,339.7 GWh						PP has applied the value of 183,339.7 which is line with the calculation method used in “TEIAS Web page”/21/. It’s an ex-ante value fixed at the time of validation. The value mentioned in the MR/2/ and ER sheet/3/ is found to be consistent with the VCS PD/1/.	
EF _{CO₂,i,y}			Fuel Source	EF (tCO ₂ /Tj)				PP has applied the value as per the “Tool to calculate the emission factor for an electricity, which is inline with the registered PD/1/.
			Coal	89.50				
			Lignite	90.9				
			Fuel Oil	75.5				
			Diesel	72.6				
			LPG	61.6				
			Naphta	69.3				
			Natural Gas	54.3				
FC _{i,y}	Fuel	2005	2006	2007	Total Fuel Consumption 2005-2007	Total Emission 2005-2007	Calculated values are inline with the registered PD /1/.	
	Hard Coal	5,259,058	5,617,863	6,029,143	16,906,064	34,915,268		
	Lignite	48,319,143	50,583,810	61,223,821	160,126,774	96,197,334		
	Fuel Oil	2,005,899	1,746,370	2,250,686	6,002,955	18,165,198		
	Diesel Oil	28,442	61,501	50,233	140,176	436,185		
	LPG	12,908	33	0	12,941	36,623		
	Naphtha	84,481	13,453	11,441	109,375	334,828		
	Natural Gas	15,756,764	17,034,548	20,457,793	53,249,105	106,643,758		

GE		Fuel Source	Generation Eff (%)	Calculated values are inline with the registered PD/1/.
		Coal	39.0	
		Lignite	39.0	
		Fuel Oil	39.5	
		Diesel	39.5	
		LPG	39.5	
		Naphta	39.5	
		Natural Gas	60.0	
NCV		Fuel Source	NCV (Tj/kt)	Calculated data which is line with the calculation method used in "TEIAS Web page" and with respect to the registered PD/1/.
		Coal	21.83	
		Lignite	6.61	
		Fuel Oil	40.08	
		Diesel	42.86	
		LPG	45.94	
		Naphta	44.17	
		Natural Gas	36.88	
Cap _{BL}	For new hydro power plants, this value is zero.			Calculated value is inlined with the registered PD/1/.
A _{BL}	470,000 (m2)			Calculated value is inline with the registered PD/1/.
EF _{grid,CM} y	0.562 tCO2/MWh			Calculated value is inline with the registered PD/1/ and MR sheet/02/.

The ex-ante parameters mentioned in the MR/2/ are cross-checked in reference to the registered VCS PD/1/ and, are found to be consistent.

Ex-Post Parameters:

The assessment of monitored parameter has been carried out as method described in below tables.

Parameter	EGfacility,y MWh, Net Electricity generated and delivered to the grid by Uluabat HEPP in year y	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Continuous monitoring, daily and monthly recording.
	Is Measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in accordance with the monitoring plan as set out in VCS PD/1/ and applied methodology/7/.
	Monitoring equipment	The energy meter is of accuracy class

		0.2s, and make – ACTARIS, Model No. SL761A07 is used. The serial Nos. of the main meter 1 being 53035224 and main meter 2 53035241 and backup meter 1 being 53035240 and backup meter 2 being 53035243. All the energy meters are of same make and accuracy as set out in the PPA/24/. This has been verified from the calibration certificates/4/ and Photographs of meter provided by the PP/22/.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the energy meter is 0.2s, which in lines with the monitoring plan/2/. This has been verified from the calibration certificates/4/ and photographs of energy meters/22/ provided by the PP.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy of the energy meters is valid for the entire measuring range. The calibration certificates/4/ clearly show that the accuracy is valid for entire measuring range.
	Calibration frequency /interval:	TEIAS is responsible for calibration and maintenance of the meters as per the registered VCS PD /1/. The project owner has no control on the meters since the meters are sealed by the TEIAS as confirmed during the site visit. If any major discrepancy occurs between the two meters, TEIAS performs necessary calibration. The meters were calibrated by the supplier on 01/04/2010 as confirmed through the test reports /4/. Also, the meters were tested by the electricity transmission company at the project site on 15/06/2010 after the meters were installed. As per the "Regulation of Metering and Testing of Metering Systems" /21/, the meters shall be calibrated every 10 years, therefore the calibration of meters is deemed appropriate and in compliance with the national regulation. During remote-site assessment, it was confirmed that the meters are in place and function well. During this monitoring period, no brake down has been recorded. The calibrations, although required to be

		conducted every 10 years, have been conducted much more frequently and found acceptable, as reported below:																				
		<table><tr><th>Year</th><th>Calibration Date</th></tr><tr><td>2010</td><td>27/10/2010</td></tr><tr><td>2012</td><td>18/07/2012</td></tr><tr><td>2013</td><td>17-18/07/2013</td></tr><tr><td>2014</td><td>23/07/2014</td></tr><tr><td>2015</td><td>14/07/2015</td></tr><tr><td>2017</td><td>11/07/2017</td></tr><tr><td>2018</td><td>27/07/2018</td></tr><tr><td>2019</td><td>03/04/2019</td></tr><tr><td>2021</td><td>21/01/2021</td></tr></table>	Year	Calibration Date	2010	27/10/2010	2012	18/07/2012	2013	17-18/07/2013	2014	23/07/2014	2015	14/07/2015	2017	11/07/2017	2018	27/07/2018	2019	03/04/2019	2021	21/01/2021
	Year	Calibration Date																				
	2010	27/10/2010																				
	2012	18/07/2012																				
	2013	17-18/07/2013																				
	2014	23/07/2014																				
	2015	14/07/2015																				
	2017	11/07/2017																				
	2018	27/07/2018																				
	2019	03/04/2019																				
	2021	21/01/2021																				
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the frequency stated in MR/2/.																				
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the calibration is conducted by TEIAS which is authorized government -owned corporation.																				
How were the values in the monitoring report verified?	The cumulative values of EG facility, y for the entire monitoring period is reported in the MR/2/, and the monthly values are reported in the ER calculation sheet/3/ is 39,084 MWh. This value is derived from the difference in electricity exported by the PA to the grid and electricity imported from the grid, both values have been checked from the invoices/17/ shared by the PP and found to be appropriate.																					
If applicable, has the reported data been cross-checked with other available data?	NA																					
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions management. QA/QC processes are in place.																					
Findings	No findings																					

Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.
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Parameter	Installed capacity of the hydro power plant after the implementation of the project activity (Cap _{PJ} , W)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Yearly
	Is Measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in accordance with the monitoring plan as set out in VCS PD/1/ & MR /2/ and monitoring methodology/7/.
	Monitoring equipment	NA
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	NA
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the parameter is monitored through the Generation License and Letter for Approval of Commissioning; therefore, measurement equipment is not used.
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is the calibration of measuring equipment carried out by an accredited person or institution?	NA

	How were the values in the monitoring report verified?	The value of the parameter CapPJ for the installed capacity of the hydro power plant after the implementation of the project activity is reported in the MR/2/ and the same is mentioned in the ER calculation sheet/3/ which is 100 MW. The value of the parameter has been verified from the labels on the equipment during the remote site visit/8/ submitted by the PP as supporting document.
	If applicable, has the reported data been cross-checked with other available data?	The value has been cross-checked with the Generation License/5/
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	No findings	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Parameter	A _{PJ} (m ²) Installed capacity of the hydro power plant after the implementation of the project activity	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Yearly
	Is Measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in accordance with the monitoring plan as set out in VCS PD/1/ & MR/2/ and monitoring methodology/7/.
	Monitoring equipment	NA
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	NA
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	NA
	Calibration frequency /interval:	NA

	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is the calibration of measuring equipment carried out by an accredited person or institution?	NA
	How were the values in the monitoring report verified?	The parameter is monitored through the technical drawing issued by General Directorate of State Hydraulic Works (DSI)/13/
	If applicable, has the reported data been cross-checked with other available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	No findings	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Parameter	PE_{FF,y} ,Project emissions from fossil fuel consumption in year y	
Means of verification		
	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Yearly
	Is Measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in accordance with the monitoring plan as set out in VCS PD & MR /2/ and monitoring methodology/7/.
	Monitoring equipment	NA
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, For the entire of the monitoring period, all data was available.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different	NA

	measuring ranges?	
	Calibration frequency /interval:	NA
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	NA
	Is the calibration of measuring equipment carried out by an accredited person or institution?	NA
	How were the values in the monitoring report verified?	The consumed fuel is verified through the diesel oil purchasing invoice /27/ according to which the amount of diesel bought during this monitoring period is 2,505 lt. To be on the conservative side, it is assumed that all purchased diesel has been used during the monitoring period, which is found to be an acceptable approach. NCV (0.043 GJ/tonnes) and density (0.845) of the fuel is confirmed through the Appendix 2 (Heating values and tons of oil equivalent conversion factors of energy sources) of Regulation on Increasing Efficiency in the Use of Energy Resources and Energy /25/. The emission factor is calculated based on the carbon conversion unit (20 t C/TJ) given in the Turkey's National Inventory Report.
	If applicable, has the reported data been cross-checked with other available data?	NA
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	NA
Findings	No findings	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Calculation of Emission Reductions

Baseline Emissions:

The emission reductions have been computed using the following formula in accordance with the applied methodology "ACM0002," "Consolidated baseline methodology for grid-connected power from renewable sources," version 10/7/:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

BE_y = Baseline emissions in year y (tCO₂e/yr)

PE_y = Project emissions in year y (tCO₂e/yr)

LE_y = Leakage emissions in year y (tCO₂e/yr)

The baseline emissions include the CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity, multiplying the electricity supplied to the grid (MWh) with the combined margin CO₂ emission factor for grid connected power generation in year.

$$BE_y = EG_y \times EF_y$$

Where:

EG_y = Net electricity supplied to the grid (MWh)

EF_y = Combined margin grid emission factor (tCO₂/MWh)

Project emissions:

The project emissions from fossil fuel consumption is calculated as per the "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion" version 02.0 of 02/08/2008.

CO₂ emissions from fossil fuel combustion for process j are calculated based on the quantity of fuels combusted and the CO₂ emission coefficient of those fuels, as follows:

$$PE_{FC,j,y} = \sum FC_{i,j,y} \times COEF_{i,yi}$$

Where:

PE_{FC,j,y} : The CO₂ emissions from fossil fuel combustion in process j during the year y (tCO₂/yr)

FC_{i,j,y} : The quantity of fuel type i combusted in process j during the year y (mass/volume)
COEF_{i,y} : The CO₂ emission coefficient of fuel type i in year y (tCO₂/mass or volume unit)

i : The fuel types combusted in process j during the year y

$$\text{COEF}_{i,y} = \text{NCV}_{i,y} \times \text{EFCO}_{2,i,y}$$

Where:

NCV_{i,y} : The weighted average net calorific value of the fuel type i in year y (GJ/mass or volumeunit)

EFCO_{2,i,y} : The weighted average CO₂ emission factor of fuel type i in year y (tCO₂/GJ)

FC_{i,j,y} is verified through the diesel oil purchasing invoice which is 1000 lt. To be on the conservative side, it is assumed that all purchased diesel has been used during the monitoring period.

NCV_{i,y} which is applied as 0.043 GJ/tonnes and density (0.845) of the fuel is confirmed through the Appendix 2 (Heating values and tons of oil equivalent conversion factors of energy sources) of Regulation on Increasing Efficiency in the Use of Energy Resources and Energy.

EFCO_{2,i,y} is calculated based on the carbon conversion unit (20 t C/TJ) given in the Turkey's National Inventory Report.

Leakage emissions:

The leakage emissions are assumed to be zero as per the ACM0002 version 10/7/ as defined in the registered VCS PD/1/.

The data presented in the monitoring report/2/ were assessed by reviewing in detail project documentation, collection of monitored data, observation of established monitoring and reporting practices and assessment of the reliability of monitoring equipment. Sufficient evidence was presented and verified by Earthood for the reported emission reductions.

4.6 Non-Permanence Risk Analysis

There is no non-performance risk rating determined by the project proponent.

5 VERIFICATION CONCLUSION

Earthood Services Private Limited (ESPL) was contracted by Akenerji Elektrik Üretim A.Ş., to perform the independent verification of the emission reductions for the VCS project activity (VCS ID- 536) "Uluabat Hydroelectric Power Plant" in Turkey for the monitoring period 01/04/2018 to 30/09/2020 as

reported in the Monitoring Report Version 02 dated 26/08/2022. Akenerji Elektrik Üretim A.Ş is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

ESPL commenced the verification based on the baseline and approved methodology ACM0002 v10.0/7/, the monitored plan contained in the VCS PD/1/ & MR/2/, VCS guidelines/11//12/ as per the process described under section 2 of this report.

Understanding the risks involved with reporting GHG emission data and the measures in place to reduce them forms the foundation of the ESPL verification process. By gathering documentation, additional data, and justifications that ESPL deemed required to provide a reasonable level of assurance that reported GHG emission reductions are accurately stated, ESPL planned and carried out the verification.

In our opinion the GHG emissions reductions reported for the project activity for the monitoring period 01/04/2018 to 30/09/2020 are fairly stated in the Monitoring Report/2/. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodologies ACM0002 v10.0/7/.

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2018 (01/04/2018 - 31/12/2018) (275 days)	141,905	1.996	0	141,903
2019	123,755	2.646	0	123,752
2020 (01/01/2020 - 30/09/2020) (274 days)	98,469	1.988	0	98,467
Total	364,129	7.000	0	364,122

Approved by



Dr. Kaviraj Singh
Managing Director

Date: 30/09/2022

Earthood Services Privated Limited

Place: Gurugram, Haryana

APPENDIX 1: DOCUMENT REFERENCES

S.No	Title of Document	Version	Date
1.	Registered PD	04	15/10/2010
2.	VCS Monitoring Report (01/04/2018 to 30/09/2020)	02	26/08/2022
3.	ER spread sheet (01/04/2018 to 30/09/2020)	-	Corresponding to MR
4.	-Manufacturer calibration certificate for the energy meters -Subsequent certificates of calibration for all energy meters	-	Various
5.	Generation license	-	27/06/2007
6.	Plant Records/Logbooks/DCS record for the duration of monitoring period (01/04/2018 to 30/09/2020)	-	-
7.	Approved ACM0002 “Consolidated methodology for grid-connected electricity generation from renewable sources”	10	-
8.	Remote Audit through video call	-	13/09/2022
9.	Commissioning certificate	-	-
10.	VCS webpage for the project, https://registry.verra.org/app/projectDetail/VCS/536	-	Last accessed on 26/04/2022
11.	VCS Standard	4.3	Last accessed on 26/09/2022
12.	VCS Program Guide	4.2	Last accessed on 26/09/2022
13.	Certificate from the General Directorate of State Hydraulic Works (DSİ), Turkey for existing river surface area prior to the project activity	-	-
14.	Google Earth desktop/Mobile application	-	Last accessed on 13/09/2022
15.	Technical Specifications by technology supplier	-	-
16.	Skill development training records	-	-
17.	JMR & Invoices	-	-
18.	Copy of grievance register/suggestion box placed at site office	-	-
19.	Latest photographs of energy meters installed at site	-	-
20.	Validation Report	02	19/11/2010
	Previous Verification Report	1.2	18/09/2012
21.	TEIAS web page: https://webapi.teias.gov.tr/file/037a54ff-0964-46b5-84ff-375ab6c285dc?download	-	September 2008
22.	Photographs and videos of the plant site	-	-
23.	EIA Report	-	-
24.	Power Purchase Agreement	-	-
25.	Regulation on Increasing Efficiency in the Use of Energy Resources and Energy /28/	-	-

APPENDIX 2: FINDINGS OVERVIEW

Table 1. FAR from previous verification or Validation

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

Table 2. CL from this verification

CL ID	01	Section no.	-	Date : 26/08/2022
Description of CL				
In accordance with ER - Calculation sheet, tab (Diesel Emission) the values are using commas (,) as decimals. PP shall refer to ER sheet (cell: Q37, D10 and C2) and use the standard international system of numbering throughout the ER sheet and MR.				
Project Proponent response				Date : 26/08/2022
<i>"Fuel Consumption" tab is revised. However, standard international system had been used in the previous version as well. The values are checked once again and they are consistent in the Excel sheet as well as the MR. Dots (.) are used for decimals, commas (,) are used for thousands. Therefore, 7.000 tCO₂ means 7 tCO₂.</i>				
Documentation provided by project Proponent				
ER_Calculations-Uluabat Hydroelectric Power Plant-(VCS ID 536)-26.08.2022 (version 2) VCS-Monitoring-Report-Template-v4.1-Uluabat Hydroelectric Power Plant-(VCS ID 536)-26.08.2022 (version 2)				
VVB assessment				Date: 29/08/2022
In accordance with the PD response, in the ER - Calculation sheet, tab (Diesel Emission) the values are using commas (,) as decimals and use the standard international system of numbering throughout the ER sheet and MR. VVB has crosschecked the document (s) provided by the PP and found to be consistent. Hence CL #01 is closed				

Table 4. CAR from this verification found to be inconsistency in MR

CAR ID	01	Section no.	-	Date : 26/08/2022
Description of CAR				
1. The total emission reduction value is mentioned 364,129 tCO₂ in the ER sheet (cell:H41), whereas this is mentioned as 364,122 tCO₂ in the MR, please refer section 1.1, pg., 4 & 5, and page 9, section 5.3 pg 30 of MR. 2. The total emission is mentioned 7 tCO₂ in the fuel consumption sheet (cell: D14), whereas in the MR this is mentioned 1.996 total emission, please refer section 4.2, Pg., 22, (PE_{FF,y} – value monitored) 3. The Emission Reduction for 2018 (cell: C38), 2019 (cell: C39) and 2020 (cell: C40) and the total Emission Reduction value (cell: C41) are mentioned 1,41,905 (cell: H38); 1,23,755 (cell: H39); 98,469 (cell: H40) & 3,64,129 (cell: H41) in the ER sheet, whereas in the MR the total project emissions are mentioned for 2018, 2019 & 2020 as 141,903, 123,752, 98,467 & Total (364,122) respectively, please refer section 5.2, Table 10. Pg., 29 and section 5.4, Table 12, Pg 31. 4. In the pg., 31 the PP is requested to please remove “APPENDIX X: <TITLE OF APPENDIX>” in the MR, please refer section 5.4, Pg., 31				
Project Proponent response				Date : 26/08/2022
1. Total emission reduction value is 364,122 tCO₂. Please see S41 cell for the net calculation. Cell H41 is revised. Please see the table under (line 36) “SUMMARY” for all final values. 2. 1.996 value is revised as 7.000 on page 22. 3. Revised accordingly. Please see the table under (line 36) “SUMMARY” for all final values. 4. “APPENDIX X: <TITLE OF APPENDIX>” in the MR is removed.				
Documentation provided by project Proponent				
ER_Calculations-Uluabat Hydroelectric Power Plant-(VCS ID 536)-26.08.2022 (version 2) VCS-Monitoring-Report-Template-v4.1-Uluabat Hydroelectric Power Plant-(VCS ID 536)-26.08.2022 (version 2)				
VVB assessment				Date: 29/08/2022
In accordance with the PP response, The total emission reduction value is mentioned 364,129 tCO₂ in the ER sheet (cell:H41), whereas this is mentioned as 364,122 tCO₂ in the MR. The total emission is mentioned 7 tCO₂ in the fuel consumption sheet (cell: D14), whereas in the MR this is mentioned 1.996 total emission. The Emission Reduction for 2018 (cell: C38), 2019 (cell: C39) and 2020 (cell: C40) and the total Emission Reduction value (cell: C41) are mentioned 1,41,905 (cell: H38); 1,23,755 (cell: H39); 98,469 (cell: H40) & 3,64,129 (cell: H41) in the ER sheet, whereas in the MR the total project emissions are mentioned for 2018, 2019 & 2020 as 141,903, 123,752, 98,467 & Total (364,122) respectively. The PP is requested to please remove “APPENDIX X: <TITLE OF APPENDIX>” in the MR, please refer section 5.4, Pg., 31. The VVB has cross checked the documents which have provided by the PP and found to be revised. Hence CAR #02 is closed.				

CAR ID	02	Section no.	-	Date : 26/08/2022
Description of CAR				
1. In accordance with ER - Calculation sheet, tab (Reservoir Emissions) in the table (Emission from Reservoir) the years are mentioned 2012, 2013, 2014 (cells: A3, A4, A5) which is not in line with this monitoring period, please refer section 1.1, Table 3 of MR. 2. The value in ER – Calculation sheet, tab (ER) (cell no: L3) isn't in line with billing invoice, please refer 2018.04.JPG provided as evidence for electricity generation.				
Project Developer Proponent				Date : 26/08/2022
1. Calculation sheet, tab (Reservoir Emissions) in the table (Emission from Reservoir) is revised as 2018, 2019 and 2020. 2. Cell L3 value is revised as 27.66 MWh, according to 2018.04.JPG.				
Documentation provided by project Proponent				
ER_Calculations-Uluabat Hydroelectric Power Plant-(VCS ID 536)-26.08.2022 (version 2) VCS-Monitoring-Report-Template-v4.1-Uluabat Hydroelectric Power Plant-(VCS ID 536)-26.08.2022 (version 2)				
VVB assessment				Date: 29/08/2022
In accordance with the PP response, in the ER - Calculation sheet, tab (Reservoir Emissions) in the table (Emission from Reservoir) the years are mentioned 2012, 2013, 2014 (cells: A3, A4, A5). The value in ER – Calculation sheet, tab (ER) (cell no: L3). VVB has cross checked the documents, which have provided by the PP and found to be consistent. Hence CAR #02 is closed.				

APPENDIX 3: ABBREVIATIONS

Abbreviations	Full texts
BEF	Baseline Emission Factor
BM	Build Margin
CAR	Corrective Action Request
CL	Clarification Request
CMS	Central Monitoring System
CMP	Conference of Parties Serving as Meeting of Parties
CO ₂	Carbon dioxide
EB	Executive Board
FAR	Forward Action Request
GHG	Green House Gas
ISO	International Standards Organization

JMR	Joint Meter Reading
Kw	Kilowatt
kWh	Kilowatt hour
MFR	Multi-Function Relay
MR	Monitoring Report
MWh	Megawatt-hour
PD	Project Description
PLF	Plant Load Factor
PP	Project Proponent
QA/QC	Quality Assurance and Quality Control
TEIAS	Turkish Electricity Transmission Corporation
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard
VCSA	Voluntary Carbon Standard Association
VCS PD	VCS Project Description
VCUs	Voluntary Carbon Units

APPENDIX 4: COMPETENCY STATEMENTS

Competence Statement	
Name	Shifali Guleria
Education	M.Sc. (Environmental Studies and Resource Management), TERI University
Experience	3+ year
Field	Climate Change
Approved Roles	
Team Leader	YES
Validator	YES
Verifier	YES
Methodology Expert	YES (AMS-I.A., AMS-II.G., AMS-II.E., AMS-III.A.V., AMS-I.D, ACM0002)
Local expert	YES
Financial Expert	NO
Technical Reviewer	YES

TA Expert	YES (1.2, 3.1)		
Reviewed by	Deepika Mahala	Date	16/02/2022
Approved by	Ashok Gautam	Date	18/02/2022

Competence Statement			
Name	Kubra Agriman		
Education	BS Environmental Engineering		
Experience	2 years		
Field	Environmental Engineering		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	Yes (Turkey)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Reviewed by	Deepika Mahala	Date	28/06/2021
Approved by	Ashok Gautam	Date	01/07/2021

Competence Statement	
Name	Satya Ranjan Panda
Education	M.Tech in Energy and Environmental Engineering (NIT Rourkela) B.Tech in Civil Engineering (NIST Berhampur)

Experience	-		
Field	-		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	YES		
Reviewed by	Shifali Guleria (Quality Manager)	Date	15/09/2022
Approved by	Deepika Mahala (Technical Manager)	Date	15/09/2022

Competence Statement	
Name	Deepika Mahala
Country	India
Education	M. Sc. (Environment Management), GGSIP University B.Sc. Hons. (Chemistry), Sri Venkateshwar College, DU
Experience	6 Years +
Field	Climate Change
Approved Roles	
Team Leader	YES
Validator	YES

Verifier	YES		
Methodology Expert	ACM0002, AMS.I.D., AMS.I.A, AMS.III.AV, AMS.II.G, AMS-II.C		
Local expert	YES (India, Bangladesh)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2 & TA 3.1)		
Reviewed by	Shifali Guleria (QM)	Date	28/04/2022
Approved by	Kaviraj Singh (MD)	Date	28/04/2022