



**Verified Carbon
Standard**

ASLANCIK HYDRO POWER PLANT PROJECT



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Project ID	VCS 917
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Client	Life İklim ve Enerji Ltd. Şti.
Prepared by	LGAI Technological Center, S.A. (Applus+ Certification)

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Summary:

LGAI Technological Center, S.A. (Applus+ Certification) was contracted by Aslancık Elektrik Üretim A.Ş. (Project Proponent) to conduct the Joint Renewal of Crediting Period Validation and Verification of the project “Aslancık Hydro Power Plant Project”, VCS ID 917 against VCS standard version 4.7^{/3/}.

The project’s design description, baseline, monitoring plan, and compliance with applicable VCS and host party criteria are all confirmed as part of the Joint Renewal of Crediting Period Validation and Verification process. The monitoring plan of the Joint PD & MR (Project ID 917) is also implemented, and the monitoring methodology is used in accordance with the CDM methodology ACM0002, “Grid-connected electricity generation from renewable sources, Version 12.3.0 and Version 22.0^{/5/} (which is valid from 31-May-2024), the project's compliance with applied methodology were checked and acceptable. A site visit by the audit team was performed to confirm the information provided by PP.

The project involves installation of a run-of-river based hydro power plant located in the Doğankent and Tirebolu districts of Türkiye’s Giresun province in the Black Sea. The sole purpose of the project activity is to generate Electricity using the renewable energy source of the Harşit Creek's current, which originates from the Cimli, Karakaban, and Kostan mountains in the vicinity of Gümüşhane town, in the district and province of Gümüşhane, and is subsequently fed into the national Turkish grid.

Purpose of the RCP validation: The project is registered with VCS Project ID 917. The start date of the project activity is the 08-March-2014. This is the date of commissioning of the project activity, The monitoring period is completely covering under 1st crediting period. The First Crediting Period was from 08-March-2014 to 07-March-2024 and 2nd Crediting Period chosen 08-March-2024 to 07-March-2034 (both days included). The project activity is estimated to generate 428,624 MWh of electricity annually under second crediting period; thus, reducing GHGs to the tune of 191,830 tCO₂e/ annum for the entire second crediting period of 10 years.

Purpose of Verification: The main purpose of this verification activity is to have an independent third party for the assessment of the project design, monitoring report to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. The monitoring period covered under this periodic verification is 01-May-2022 to 07-March-2024 (including both days) under 1st crediting period (i.e. 08-March-2014 to 07-March-2024 and the project activity achieved a total 300,527 tCO₂e emission reductions during this monitoring period thereon displaced 563,847.46 MWh amount of electricity from the generation mix of power plants connected to the National Grid of Turkey which is mainly dominated by thermal/fossil fuel-based power plant.

RCP Validation and Verification scope is defined as an independent and objective review of the Joint Project Description and Monitoring Report (JPD-MR). The review of the Joint RCP PD & MR that is impartial and unbiased is what is meant by the validation and verification scope. The VCS Program Guide (v4.4)^{/3/}, VCS Standard (v4.7)^{/3/}, Program Definitions (v4.4)^{/3/}, Registration & Issuance Process (v4.4)^{/3/} applicable at the time are compared to the Joint PD & MR to ensure that the project complies with the requirements of the applied baseline and monitoring methodology, namely ACM0002, Version 12.3.0 (for 1st Crediting period) and Version 22.0^{/5/} (for 2nd Crediting period). and the project's compliance with applied methodology were checked and acceptable.

Reviewing the Joint VCS PD & MR for the monitoring results and confirming that the monitoring methodology was applied in accordance with the monitoring plan and monitoring parameters which are the main goals of the verification. After reviewing the ER sheet^{/2/}, it was confirmed that the reductions due to the anthropogenic emissions by sources are sufficient, conclusive, and presented in a clear and understandable way. In order to establish that the project has been implemented in line with design and conservative assumptions, as specified, the monitoring plan, Joint PD & MR^{/1/}, ER sheet^{/2/}, and the project's compliance with relevant VCS, and host party criteria were specifically checked.

Verification of project implementation and operation in accordance with the registered VCS Joint PD & MR^{1/}, implemented monitoring plan within the Joint PD & MR^{1/}, and applied baseline & monitoring methodology, ACM0002, Version 12.3.0 and Version 22.0^{5/} were all included in the scope of the validation and verification. It was also verified that the actual monitoring systems and procedures are adhered to, as per the monitoring systems and procedures outlined in the monitoring plan. The project's compliance with the applied methodology was checked and found to be acceptable. Identification of any substantial inaccuracies in the stated GHG emission reduction estimations and articulating a conclusion with a fair degree of assurance was part of the assessment. It is confirmed by the assessment team that the stated GHG emission data is appropriately supported by evidence.

The validation consists of the following four phases:

I. A desk review of the project description documents

- A review of data and information.
- Cross checks between information provided in Joint RCP PD&MR and information from sources with all necessary means without limitations to the information provided by the project proponent.

II. Interviews with project stakeholders

- Interviews with relevant stakeholders in the host country with personnel having knowledge of the project development via telephone, email or direct on-site visits.
- Cross-checking between information provided by interviewed personnel with all necessary means without limitations to the information provided by the project proponent.

III. Reference to available information relating to projects or technologies similar to projects under validation & verification and review based on the approved methodology being applied for the appropriateness of formulae and accuracy of calculations.

IV. The resolution of outstanding issues and the issuance of the final validation report and opinion.

This Joint Renewal of Crediting Period Validation and Verification have been carried out using a risk-based methodology. 08 Corrective Action Requests (CARs) and 04 Clarification Requests (CLs) were raised during verification and successfully closed. No FAR was raised during this verification period.

Any uncertainties associated with the joint validation & verification: There are no uncertainties associated with the joint validation & verification of the project activity. The joint validation & verification has been done with a reasonable level of assurance.

The project has been successfully validated, verified, and further certified for emission reductions under VCS as it meets the criteria outlined by the VCS Joint PD & MR template version 4.4, the VCS Standard version 4.7^{3/}, and the applied methodology ACM0002, Version 12.3.0 and Version 22.0^{5/}. The project's compliance with the applied methodology was checked and found to be acceptable."

Our view refers to the projects' claimed GHG emissions, GHG emission reductions as a result, and to the project's legitimate baseline, monitoring, and supporting documents. Based on the information viewed and assessed, we confirm that the project activity "Aslancık Hydro Power Plant Project" achieved emission reductions by 300,527 tCO₂e from 01-May-2022 and 07-Mar-2024, first and last days included.

The conclusion of this report shows that the project, as it was described in the project documentation, is in line with all criteria applicable for the VCS Joint Renewal of Crediting Period Validation and Verification. This Joint Renewal of Crediting Period Validation and Verification is based on the information made available to LGAI Technological Center S.A. (Applus+ Certification) and the engagement conditions are detailed in this report. VVB's team didn't identify any restriction or uncertainties related to verification of the project activity.

The assessment team has employed a risk-based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the Joint VCS PD & MR. The main focus of the assessment team is to identify the significant risks for the project implementation and the generation of VCUs. The joint validation & verification is not meant to provide any consulting towards the project proponent. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring report combined.

The only purpose of the verification is its usage during the registration & issuance process as part of the VCS project cycle. Therefore, LGAI Technological Center S.A. (Applus+ Certification) can't be held liable by any party for decisions made or not made based on the joint validation & opinion, which will go beyond that purpose.

The joint RCP validation & verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for document verifications. The entire documents checked/verification conducted to arrive at positive joint validation & verification conclusions.

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1 INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (hereinafter referred to as Applus + Certification or the VVB) Applus+ Certification has been contracted by Aslancık Elektrik Üretim A.Ş. (project proponent), to undertake the joint Renewal of Crediting Period Validation and Verification of the project titled “Aslancık Hydro Power Plant Project”. The assessment team have reviewed the GHG data collected for the monitoring period from 01-May-2022 and 07-Mar-2024 (first and last days included) covered in this Joint Renewal of Crediting Period Validation and Verification. The objective of the same is to have an independent third- party assessment of the Joint PD & MR^{1/} and supporting documentation to ensure compliance with the rules, regulations and guidelines by VCS requirements. In particular:

- The project's monitoring plan and information was assessed against “ACM0002 Grid-connected electricity generation from renewable sources, Version 12.3.0”^{5/} for monitoring period 01/05/2022 to 07/03/2024.
- The project's baseline, additionality and Monitoring Plan were assessed against “ACM0002 Grid-connected electricity generation from renewable sources, Version 22.0”^{5/} for 2nd crediting period.
- VCS Validation and Verification Manual v3.2.^{3/}
- VCS standard v 4.7. ^{3/}
- VCS Program Guide v 4.4. ^{3/}
- VCS Registration and Issuance Process version 4.4 ^{3/}

LGAI Technological Center, S.A. (Applus+ Certification) as the Validation/Verification Body (VVB) for the project activity is accredited as a DOE by UNFCCC and also meets the competence requirements as set out in the normative reference ISO 14065:2020.

Validation and Verification are requirements for all VCS projects and is seen as necessary to, through the provision of objective evidence, provide assurance to stakeholders of the quality of the project and that the requirements for a specific intended future use or application have been fulfilled regarding the GHG claims (i.e. generation of estimated Verified Carbon Units (VCUs)).

This Report contains the findings and resolutions form validation and verification of the project activity.

1.2 Scope and Criteria

For RCP Validation:

The validation scope is given as an independent and objective review of the project design, the project's baseline study and monitoring plan (ACM0002 Grid-connected electricity generation from renewable sources, Version 22.0)^{/5/} which are included in the VCS joint PD & MR^{/1/} and other relevant supporting documents. The scope of work covered in the validation is described as below:

- To validate whether the project activity meets the requirements of VCS Standard (v4.7) and VCS program guide (v4.4) including additionality, proof of title and compliance with local laws.
- To evaluate whether the baseline and monitoring plan are in conformance with the applied methodology from the VCS approved GHG program.
- To confirm that the information presented are completed, consistent, transparent and free of omission or material error.
- Background investigation and follow up interviews.
- Issuance of draft validation report with CARs, CRs & FARs, if any.
- Final validation opinion.

The information in the VCS joint PD & MR is reviewed against the criteria of

- VCS Program Guide (v4.4) ^{/3/}
- VCS Standard (v4.7) ^{/3/}
- VCS Program Definitions (v4.4) ^{/3/}
- VCS Registration & Issuance Process (v4.4) ^{/3/}
- CDM approved methodology ACM0002 Grid-connected electricity generation from renewable sources, Version 22.0^{/5/}
- CDM Tool - "TOOL01: Tool for the demonstration and assessment of additionality, version 7.0"
- CDM Tool - "TOOL07: Tool to calculate the emission factor for an electricity system, version 7.0"

CDM Tool - "TOOL11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, version 3.0.1 "Applus+ Certification has performed validation and verification based on a risk-based approach focusing mainly on the significant risks to meet the qualification criteria and the ability to generate Verified Carbon Units (VCUs).

For Verification:

The scope of the verification was the independent and objective review and ex-post determination of the monitored reductions in GHG emissions from "Aslancık Hydro Power Plant Project". The verification of this project was based on the validated and Verified VCS joint project description & monitoring report and supporting documents submitted by the project proponent to the verification and validation team. The documents were reviewed against the following guidance and protocols:

- VCS Program Guide (v4.4) ^{/3/}
- VCS Standard (v4.7) ^{/3/}
- VCS Program Definitions (v4.4) ^{/3/}
- VCS Registration & Issuance Process (v4.4) ^{/3/}
- CDM approved methodology ACM0002 Grid-connected electricity generation from renewable sources, Version 12.3 ^{/5/}
- CDM Tool - "TOOL07: Tool to calculate the emission factor for an electricity system, version 7.0"

The assessment team has employed a risk-based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the Joint VCS PD & MR ^{/1/}. The main focus of the assessment team is to identify the significant risks for the project implementation and the generation of VCU. This Joint Renewal of Crediting Period Validation and Verification are not meant to provide any consulting towards the project proponent. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

The only purpose of the Joint Renewal of Crediting Period Validation and Verification is its usage during the registration & issuance processes as part of the VCS project cycle. Therefore, LGAI Technological Center S.A. (Applus+ Certification) can't be held liable by any party for decisions made or not made based on the Joint Renewal of Crediting Period Validation and Verification opinion, which will go beyond that purpose.

1.3 Reasonableness of Assumptions and Level of Assurance

The Joint Renewal of Crediting Period Validation and Verification report is based on the joint PD & MR ^{/1/}, supporting evidence(s) made available to the VVB and information collected through performing interviews and during the On-site visit (OSV). The validation & verification conclusion is assured a reasonable level of assurance that reported estimated GHG emission reductions are fairly stated and in compliance with the standards and guidelines of VERRA.

Further, the verification expresses a conclusion with a reasonable level of assurance about whether the reported GHG emissions reduction data is free from material misstatement. VVB applied a materiality threshold of 5% with respect to omission or misstatements concerning reported quantities as per VCS standard version 4.7 ^{/3/}.

1.4 Summary Description of the Project

The project is a run-of-river dam-based hydro power plant which involves installation of 120MWm/98 MWe (DC) situated at the Doğankent and Tirebolu districts of Türkiye's Giresun province in the Black Sea. The main purpose of project activity is to annually supply emission-free electricity to the national grid of Türkiye. Aslancık HEPP displaces electricity generated from

the existing energy mix, which predominantly relies on thermal power plants, thereby influencing the planned capacity expansion of the electricity system.

In the absence of the project activity, the equivalent amount of power would have been generated by the operation of grid connected power plants and by the addition of new generation sources. Hence, the baseline for the project activity is the equivalent amount of power of the turkish grid that are displaced due to the project activity.

<i>The geo-coordinates of the plant location are as follows: Unit</i>	Longitude (N)	Latitude (E)
Power House	40°54'36.30" N	38°50'47.72"E
Main dam	40°48'57.69" N	38°54'41.47" E
Switchyard	40°54'38.85" N	38°50'46.44" E

The project was commissioned with 93 MWe capacity on 08-March-2014, which was also considered as start date of operation and start date of Crediting period for this project activity. Additionally, 5 MWe was added by PP and was commissioned on 18-December-2017. Above mentioned details were checked with the actual generation license of the project^{/6/}, Technical specifications^{/15/} and were found correct by the VVB. Same was also confirmed during the onsite assessment.

The crediting period's expected annual average emission reductions are 191,830 tCO₂e/year and 1,918,300 tCO₂e over the course of the ten-year crediting period.

For current monitoring period from 01-May-2022 and 07-Mar-2024 (inclusive of both the dates), the project has reduced 300,527 tCO₂e of GHG emissions.

Based on an examination of the Joint PD & MR^{/1/}, ER estimation and Actual ER spreadsheet^{/02/}, the estimated emission reductions were validated, and actual emission reductions were verified.

Project Deviations:

During the second monitoring period, the Project incorporated two parameters, APJ and CapPJ, which were not included in the registered PDD or the first monitoring period. These additions comply with the updated requirements of ACM0002 Version 22.0 and will be monitored for the remaining crediting periods. Additionally, the reservoir area used for project emissions calculations was corrected to reflect the actual constructed size of 160,000 m², as measured when full, instead of the feasibility report estimate. The project underwent a capacity increase on December 18, 2017, raising its installed capacity from 93 MWe to 98 MWe; despite this increase, renewable electricity generation remains below the estimates in the registered PDD, preserving the project's additionality.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Joint Renewal of Crediting Period Validation and Verification Process:

Joint Renewal of Crediting Period Validation and Verification were conducted using Applus+ Certification's procedures in line with the requirements specified in the VCS standard Requirements 4.7^{3/}, Validation and Verification Manual, version 3.2^{3/} and applying standard auditing techniques.

The project assessment is based on the Clean Development Mechanism Validation and Verification Standard for Project Activities version 3 and VCS standard version 4.7 and VCS Program guide version 4.4 and is conducted using standard auditing techniques to assess the correctness of the information provided by the project proponent. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed.

No ICT means have been used for the conduction of this Verification VCS Registration and Issuance Process, version 4.4 process other than those for the provision of documents and transferring information and undertake normal communications with the PP(s). Those ICT means supporting the process in this sense, have been used to an extent sufficient to cover the background necessities of the Verification and Validation process and have demonstrated enough effectiveness to conduct it in accordance with the relevant applicable regulatory requirements.

No virtual sites have been included in the Joint Renewal of Crediting Period Validation and Verification process according to the definition in the IAF MD4:2023 document. Instead, the documentation has been provided upon request from the VVB by other means (such as physical documents, mail, transfer applications, etc.)

Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS grouped project activity are appointed in accordance with the Applus+ Certification's procedures and policies, that are in accordance with the ISO 14065:2020 regulatory provisions.

Applus+ Certification has completed a strategic review and risk assessment of the project's activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project's emissions and emission reductions, including leakage if relevant.
- Protocols used to estimate or measure GHG emissions from these sources.
- Collection and handling of data.

- Controls on the collection and handling of data.
- Means of validating & verifying the estimated & the reported data; and
- Compilation of the information in the VCS PD&MR.

Based on the above-mentioned points, the VVB prepared a Validation and Verification Plan and applied an evidence-gathering plan designed to collect sufficient and appropriate evidence upon which to base the conclusion and to consider the inherent risk for the Validation and Verification. The evidence-gathering plan is based on analytical procedures and tests and considers the thresholds for materiality as per the regulatory documents applied for this Validation and verification (5% as per the applied VCS Standard version 4.7).

The applied evidence-gathering plan is used by the VVB to determine the conformity of the statements made by the client against the principles and requirements of the applied regulatory documents during this validation.

The evidence-gathering plan designed by the VVB takes into consideration, as a minimum:

- The selection and management of the data and information.
- The processes for collecting, processing, consolidating, aggregating and reporting the data and information.
- Systems and processes in place to ensure the validity and accuracy of the data and information.
- The design and maintenance of the system to control the data and information.
- Systems, processes and personnel that support system in place, including activities for ensuring data quality.

Applus+ Certification has validated the design of the monitoring plan and the data presented in the joint Project Description and Monitoring Report for the crediting period and monitoring period applicable to this validation and verification process.

The proposed implementation and operation of the project activity, as well as the measures employed to report emission reductions, must be evaluated and decided to meet with the criteria and pertinent recommendations provided by the VCS. The validation and verification process consists of the following four phases:

- The signature of the contract for Joint Renewal of Crediting Period Validation and Verification between the PP and the VVB.
- A kick-off meeting/communication to require the documentary material to perform an initial desk review.

- An initial desk review of the documentary evidence(s) prepared by the Project Proponent.
- The issuance of findings coming from this initial desk review (if any).
- The conduction of an onsite visit, including interviews with project proponent and project stakeholders.
- The issuance of findings from the remote inspection and communication of such deviations (if any) to the Project Proponent.
- The assessment of their resolution and closure, when appropriate.
- Once all the findings have been closed, the elaboration of this Validation and Verification Report, in which such findings (if any) are described
- The conduction of an independent Technical Review.
- Upon conclusion of the Technical Review, the VVB performed a final quality check before the issuance of the Final Joint Validation & Verification Report (FVR) and signature of the corresponding Validation & Verification Deed.

The process of this joint validation & verification assessment has not implied any sampling plan.

Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The qualification levels for Assessment Team members that are assigned by aforementioned appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) /Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).
- Other supporting roles such as Country Expert (CE) or Financial Expert (FE).
- Any of the above-mentioned roles in training (iT, e.g. AiT for auditor in training/TeiT for Technical Expert in Trainee).

The Sectoral Scope / Technical Area required knowledge linked to the applied methodology(ies) is covered by the Assessment Team as shown below.

Name	Role	SS / TA coverage	Financial aspect	Host Country Expertise	Onsite Visit
Mr. Ishan Shrivastava	LA/TE	YES	NA	NA	Yes
Mr. Denny Xue	TR	YES	NA	NA	NA

The complete list of CVs is included as Appendix 3 of this report.

Internal Quality Control

As final step of a Joint Renewal of Crediting Period Validation and Verification, the validation and verification report must undergo an internal quality control by the technical review committee.

Details of the Technical Reviewer(s) are provided within the Validation and Verification Report in Section B.2. and Appendix 2 for further references of knowledge and capability to conduct the quality checking.

After the Technical Review process, the final documentation may undergo a final quality checking process called Administrative Review, done by the Applus+ Certification's Project Manager and/or Technical Support. For final approval, the final set of documents are prepared by the VVB's Technical Manager or its deputy and signed by the authorized signatory of the VVB.

In case any of the persons performing this final internal quality, control approval process has acted as a part of the Assessment Team or Technical Review team, the approval can only be given by VVB's personnel who are not part of those teams.

After approval of Technical Manager, the positive RCP validation & verification opinion and relevant documents are submitted to the PP for further submission to VCS board through the VCS registry.

Document Review

The latest version of joint PD & MR^{1/} and supporting background documents related to the project implementation were reviewed. Documents review was conducted to ensure consistency with and identify any deviation from VCS program requirements. Desk review included an examination of the project design details, baseline scenario, additionality, ex ante and monitoring data and parameters, and ex ante quantification of GHG emission reductions. The assessment team also used additional documentation by third parties like host party legislation, technical reports referring to the project design details, baseline scenario, additionality, monitoring or to the basic conditions and technical data. Furthermore, the joint PD & MR and the corresponding emission reduction calculation sheet for the selected monitoring period, relevant decisions,

clarifications and guidance from the VERRA, other information and references relevant to the project activity have also been assessed during the desk review.

Further, a cross-check between information provided and information from other sources has been carried out. A complete list of all documents and evidence material reviewed is included in this report in Appendix 2 below.

Onsite Visit

Onsite audit was conducted by LGAI Technological Center S.A. (Applus+ Certification), and interviews of project stakeholders were done to confirm selected information and to resolve issues identified in the document review. The details are provided in this report in the below sections.

Sampling Process

Not required.

2.2 Document Review

The joint PD & MR/^{1/} and other related documents were reviewed as a part of the Joint Renewal of Crediting Period Validation and Verification process, which is described in detail in Appendix 2 of this document. The assessment team uses a standard protocol to do the assessment of both validation and verification. The comparison of data from Joint PD & MR/^{1/} with data from additional sources, if available, the team's sectoral or local experience, and, if necessary, independent background investigations.

2.3 Interviews

The assessment team (As mentioned in Appendix 04 below) visited the site between 24-June-2024 to 25-June-2024. PP representatives and end users were questioned. The table includes information on the interviewees from PP side.

Sr. No.	Name	Role	Organization
1.	Suat Odonar	Sales & Planning Director	Aslancık Elektrik Üretim A.Ş.
2.	Gokhan Birinci	Plant Manager	
3.	Holilbrahim Guner	Safety Engineer	
4.	Immtteh	Shift Incharge	
5.	Asli Ozgun	Consultant	Life İklim ve Enerji Ltd. Şti.
6.	Yusuf Yolcu	Stakeholder	Aslancik Village
7.	Evren Elhozogh	Stakeholder	Aslancik Village

The topics discussed during the interview range from the project's general characteristics and implementation to its technical details, including design and technical specifications, project implementation status, project start date and location, The evaluation was created using the interview input together with the onsite available documentations and observations.

2.4 Site Visits

The assessment team conducted the onsite visit on 24-June-2024 to 25-June-2024. During the onsite visit representative of the project proponent, operation and maintenance staff were interviewed; personal responsible for monitoring, collecting data and management, and QA/QC procedure. The details of the personal interviewed are mentioned in the table below.

Duration of Onsite Visit: 24-June-2024 to 25-June-2024				
Sr. No.	Activity performed on-site	Site location	Date	Team Member
1.	Assessment team checked the implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring.	Aslancık hydro Power plant, Giresun Province, Türkiye Black Sea region	24-June-2024 to 25-June-2024	Mr. Ishan Shrivastava (Lead Auditor & Technical Expert)

2.5 Resolution of Findings

The objective of this phase of the Joint Renewal of Crediting Period Validation and Verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for LGAI Technological Center S.A. (Applus+ Certification)'s positive conclusion on the project design and Monitoring report. The Corrective Action Requests and Clarification Requests raised by LGAI Technological Center S.A. (Applus+ Certification) were resolved during communications between the Client and LGAI Technological Center S.A. (Applus+ Certification) to guarantee the transparency of the validation & verification process, the concerns raised, and responses given are summarized below in the Appendix 2.

Corrective Action Request (CAR) is raised if one of the following occurs: Non-compliance with the project description, applicability of monitoring methodology and its tools, additionality tools and has not been sufficiently documented by the project proponent, or if the evidence provided to prove conformity is insufficient.

Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project proponent, or if the evidence provided to prove conformity is insufficient.

Modifications to the implementation, operation and monitoring of the registered project activity have not been sufficiently documented by the project proponent.

Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions; Issues identified in a FAR during validation/verification to be verified during verification or previous verification(s) have not been resolved by the project proponent.

Clarification request (CL) is raised if: Information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

Forward Action Requests (FARs) are raised if: Information is not available during the present validation or verification process, which would need to be verified in subsequent verification or monitoring period.

08 Corrective Action Requests (CARs) and 04 Clarification Requests (CLs) were raised and successfully closed during the current Joint Renewal of Crediting Period Validation and Verification.

Appendix 4 contains all of the findings that are brought forward and shared with project proponent during the assessment. The section also covers the project proponent's responses, if any, and the assessment team's evaluation subsequently for any open findings.

2.5.1 Forward Action Requests

The project activity is undergoing Joint Renewal of Crediting Period Validation and Verification under VCS, and no FAR have been raised.

3 VALIDATION FINDINGS

3.1 Project Details

The project involves installation of a run-of-river based hydro power plant located in the Doğankent and Tirebolu districts of Türkiye's Giresun province in the Black Sea. The sole purpose of the project activity is to generate Electricity using the renewable energy source of the Harşit Creek's current, which originates from the Cimli, Karakaban, and Kostan mountains in the vicinity of Gümüşhane town, in the district and province of Gümüşhane, and is subsequently fed into the national Turkish grid. Moreover, it includes a barrage and reservoir, a diversion structure, an energy tunnel and penstock, along with a powerhouse equipped with electro-mechanical equipment. Power generation is facilitated through the installation and operation of a run-of-river HPP comprising two Vertical Francis turbines, each with a rated capacity of 60 MWm/49 MWe. The total installed capacity is reported at 120 MWm/98 MWe, reflecting the maximum capacity

achievable by this specific turbine combination. Same was checked from the technical specifications of the plant as provided to VVB, and was confirmed during the on-site visit and was found to be consistent.

The project is expected to achieve an annual average emission reduction of 191,830 tCO₂e and a total emission reduction of 1,918,300 tCO₂e during the 10-year second crediting period 08-March-2024 to 07-March-2034.

The project was commissioned with 93 MWe capacity on 08-March-2014, which was also considered as start date of operation and start date of Crediting period for this project activity. Additionally, 5 MWe was added by PP and was commissioned on 18-December-2017. Above mentioned details were checked with the actual generation license of the project^{/6/}, Technical specifications ^{/15/} and were found correct by the VVB. Same was also confirmed during the onsite assessment.

VVB team verified the details about the project proponent from the project web page of the registry, estimated emission reduction values and capacity were found inconsistent with correct data. CLs and CARs were raised and closed successfully.

The assessment team has verified the ownership of the Project Activity with the help of Commissioning certificate (Provisional Acceptance protocol)^{/6/}, EPIAS records and were found correct. This was also cross-checked during the onsite assessment & in the joint PD & MR, wherein the given information was found to be consistent. Hence, accepted.

Contributions related to the Sustainable Development Goals are mentioned in section 4.2 of this document. Same is checked and confirmed by the VVB team.

The current monitoring period was from 01-May-2022 and 07-Mar-2024 (first and last days included) and the total emission reduction is 300,527 tCO₂e.

The installation of this hydro project aims to the baseline scenario would be the continued use of fossil fuel dominated grid connected electricity generation and shift from non-renewable fossil fuels to renewable energy sources in remote area. Thus, this project will reduce GHGs emissions and generate GHGs reductions throughout the project.

The geo co-ordinates for the geographical area mentioned in the Joint PD&MR were checked and found to be correct. VVB during the onsite audit confirms the location of the hydro power plant, which was also cross checked against the GPS Software Google Earth and it was found that the data mentioned in the Joint PD&MR to be consistent.

The hydropower plant consists of the following equipment's as given in the below table:

Table 1 Technical data			
HYDROLOGY			
Precipitation area: 3,109 km ²	Long term average flow at the dam/barrage: 45.11 m ³ /s -1,420.57 hm ³ /a		
RESERVOIR			
Maximum (minimum) operating water altitude/level: 183m (180m)			
Total storage volume: 1.636 hm ³		Lake area: 0.175 km ²	
BULKHEAD/COFFERDAM AND DIVERSION			
Altitude of the upstream (downstream) cofferdam: 176m (166m)			
Dimensions of the diversion channel: 12m · 7m		Length: 330m	
DAM/BARRAGE			
Type: Concrete weight	Crest elevation: 185m		Thalweg elevation: 165m
Height from thalweg/Dam height: 20m		Height from foundation: 29m	
WATER INTAKE STRUCTURE			
Control: Rolling cofferdam cover		Invert elevation: 171m	
Dimension of the clear aperture: 2 · 5.5m · 12m		Limit of submergence: 3.5m – 6.5m	
GRAVEL PASS			
Type: Orifice radial cover	Invert elevation: 165m	Dimensions of the radial covers: 6m · 2.95m	
SPILLWAY/OVERFALL			
Location and type: on the stem, radial cover, frontal acceptance			
Number of radial covers: 3		Dimensions of the radial covers: 13.3m · 15.12m	
ENERGY TUNNEL			
Type: Reverse-U Cross section (modified horseshoe), concrete coated			
Tunnel inside diameter: 5.5m		Tunnel length (up to steel coating): 12,907m	
Length and diameter of the Steel coated tunnel: 160m / 4.5m circular			
VALVE CHAMBER			
Type: On the place	Dimensions: 18.5m · 8m	Equipment: 1 · 4,500mm butterfly valve	
SURGE CHAMBER			
Type: Vertical cylindrical shaft	Shaft diameter: 22m		Top of shaft elevation: 205m
Shaft altitude: 50m		Maximum water level: 200m	Minimum water level: 155.5m
PENSTOCK			
Diameter: 4,500mm	Length: 238m	Bifurcation area: 3,200mm (diameter) / 2 · 18=36m (length)	
POWER HOUSE			
Type: Half submerged	Number of units: 2		Nominal/Rated installed capacity: 2 · 60 MW
Turbine: Vertical Francis		Maximum gross head: 134.5m	Unit discharge/flow rate: 51.1m ³ /s
Dimensions: 36.8m · 17m		Altitude (max.): 39.8m	Elevation of Environment: 58m
SWITCHYARD			

Type: Open-air switchyard	Operating voltage: 13.8/154 kV	Dimensions: 42m · 81m
Energy transmission line: 1272 MCM / Length 11.4km / End at <u>TEIAS</u> Tirebolu Substation		

VVB team further verified that, details of all the equipment used in the project activity is found consistent with the details given in the project's description.

Hence, assessment team confirms that the purpose of this project activity is to reduce GHG emission by Installing a runoff river hydro power plant. Same has been confirmed through document review and onsite visit with the project site personnel. Final Joint VCS PD&MR also reflects the same. Thus, found acceptable as Joint PD&MR is accurate and provided complete project information.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Audit history	Joint Renewal of Crediting Period Validation and Verification for: Crediting period: 08-Mar-2024 to 07-Mar-2034 (inclusive of both the dates) & Monitoring period: 01-May-2022 and 07-Mar-2024 (inclusive of both the dates)
Sectoral scope	1: Energy (renewable/non-renewable)
AFOLU project category, if applicable	Assessment team verified that project activity is Hydropower Project, thus this criterion is not applicable.
Project activity type	Type I – Renewable energy Project
General eligibility of the project to participate in the VCS Program	The VVB team noted that the project activity is already registered under the VCS program and has nearly completed its 7-year crediting period. The project proponent is now proposing to renew the crediting period; therefore, this section is not applicable.
AFOLU project eligibility, if applicable	Not applicable
Transfer project eligibility, if applicable	Not applicable, as the project is not being transferred from any other approved GHG Program. A duly signed self-declaration for the same has been provided by the Project Proponent mentions that the project is not registered/seeking registration in any other GHG registry apart from VERRA. VVB has verified the declaration and checked various compliance and voluntary carbon registries including GS4GG, GCC, CDM etc. and found that the project is not registered in any of them

	and does meet the criteria mentioned in Appendix 2 and Section 3.22 (Participation under other GHG Programs) of the VCS Standard v4.7.
Project design	As per para 3.6 of the VCS Standards version 4.7, the proposed project activity is Single location or Installation category.
Project ownership	Aslancık Elektrik Üretim A.Ş.
Project start date	08-March-2014
Project crediting period	2 nd Crediting period (10 Year) from 08-Mar-2024 to 07-Mar-2034 (inclusive of both the dates)
Project scale	The assessment team has crosschecked and found that the estimated annual emission reduction 191,830 tCO ₂ as per para 3.10.1 (1) VCS standards version 4.7, the emission reduction of project activity is less than 300,000 tCO ₂ hence project is not large-scale project and will be considered as “Project”.
Likelihood of achieving estimated GHG emission reduction or removals	During review, VVB term observed that estimated electricity generation will be used for to generate Electricity using the renewable energy source of the Harşit Creek's current, which originates from the Cimli, Karakaban, and Kostan mountains in the vicinity of Gümüşhane town, in the district and province of Gümüşhane, and is subsequently fed into the national Turkish grid, as confirmed against the project generation license. For 1st Crediting period: Based on registered VCS PDD, it was found that the annual emission reductions i.e. 222,884 tCO₂e and a total emission reduction of 2,222,840 tCO₂e during the first 10-year crediting period is being correctly calculated. Moreover, based on the plant's monitoring data and actual emission reduction calculation, PP has reduced total of 300,527 tCO₂e for the current monitoring period from 01-May-2022 to 07-March-2024 (inclusive of both the dates). For 2nd Crediting period: Based on the estimated ER Calculation sheet for, it was found that the annual emission reductions i.e. 191,830 tCO₂e and a total emission reduction of 1,918,300 tCO₂e during the Second 10-year crediting period is being correctly calculated. Thus, VVB confirm chance of likelihood of achieving estimated GHG emission reduction or removals.
Technologies and measures	The Project consists of the implementation of a runoff river based hydro power plant with a cumulative capacity of 120 MWm (98 MWe),

implemented by the project activity	located in located in the Doğankent and Tirebolu districts of Türkiye’s Giresun province in the Black Sea. Technical specification details of the plant equipment have been provided in section 3.1 of this report.												
Implementation schedule of the project activity or activities	The project activity has Started its operation from 08-March-2014 which is the Commissioning date of the 93 MWe capacity, same has been verified through the commissioning certificates/ ^{6/} issued by the Turkey Energy Market Regulatory Agency.												
Project location	Doğankent and Tirebolu districts of Türkiye’s Giresun province in the Black Sea. <table><tr><th>Unit</th><th>Longitude (N)</th><th>Latitude (E)</th></tr><tr><td>Power House</td><td>40° 54'36.30" N</td><td>38° 50'47.72"E</td></tr><tr><td>Main dam</td><td>40° 48'57.69" N</td><td>38° 54'41.47" E</td></tr><tr><td>Switchyard</td><td>40° 54'38.85" N</td><td>38° 50'46.44" E</td></tr></table>	Unit	Longitude (N)	Latitude (E)	Power House	40° 54'36.30" N	38° 50'47.72"E	Main dam	40° 48'57.69" N	38° 54'41.47" E	Switchyard	40° 54'38.85" N	38° 50'46.44" E
Unit	Longitude (N)	Latitude (E)											
Power House	40° 54'36.30" N	38° 50'47.72"E											
Main dam	40° 48'57.69" N	38° 54'41.47" E											
Switchyard	40° 54'38.85" N	38° 50'46.44" E											
Conditions prior to project initiation	Assessment team verified that prior to the initiation of the project activity, the equivalent amount of electricity would have been drawn from grid connected or new power plants, in Turkish Grid. The grid is predominantly coal based and therefore is a major source of carbon dioxide emissions in Turkey.												
Project compliance with applicable laws, statutes and other regulatory frameworks	The VVB team noted that the project activity is already registered under the VCS program and has nearly completed its 7-year crediting period. The project proponent is now proposing to renew the crediting period; therefore, this section is not applicable.												
Double counting and participation under other GHG programs	The project is seeking registration under VCS (with Project ID VCS 917) only. Assessment team further added that, project activity is not receiving or not seeking any credit for reductions and removals from a project activity under another GHG program i.e. CDM, GS4GG, GCC. Assessment team verified has checked the other GHG mechanism web interface and it is conformed that project activity is other mechanism, as per para 3.23.1 of the VCS Standards version 4.7, project proponent has submitted the no double accounting declaration. Project has provided the information that, project is not registered other than VCS and project activity is not rejected by other mechanism. Moreover, project proponent has submitted the declaration which states that the net GHG emission reduction generated by the project activity will not be used for compliance with any other emission trading programme or to meet binding limit on GHG emission. Assessment												

	team also checked independently other registries and found that project is not participating in GHG programs other than VCS program.
No double claiming with emissions trading programs or binding emission limits	The project activity is not participating in other emission trading programs or binding emission limits. The letter of undertaking has been furnished by the project proponent confirming that net GHG emission reduction or removal generated by the project will not be used for compliance with an emission trading programme or to meet the binding limit on GHG emission.
No double claiming with other forms of environmental credit	VVB team verified that, the project only seeking registration under the VCS mechanism with (VCS Ref No. 917). The VVB team reviewed other mechanisms. The VVB team also confirmed that PP had submitted them a declaration of no double accounting stating that there was no double accounting and verified that project activity wasn't seeking double claims for environmental credits.
Supply chain (Scope 3) emissions double claiming	Assessment team verified that; Project is Hydro energy-based power generation plant, with combine capacity of 93 MWe. Assessment team further verified that, In-line with para 3.24.7 of VCS Standard V4.7, the PP doesn't fall in the supply chain as the PP is not a buyer or seller of a product (a good or service) and whose product emission footprint is changed by the project activities specified in the VCS PD&MR.
Sustainable development contributions	Project activity is claiming SDG 7, SDG 8, & SDG 13. Following is the SDG Indicators: SDG 7.2.1: VVB team has confirmed that, this project is renewable hydro power project and the installations started operation from 08-March-2014 and same was verified with the commissioning certificates^{/6/} provided by the project proponent along with onsite visit observations. The generated power from the project activity is the clean energy and continuously monitored by the energy meters installed at the site and included in the monitoring plan in the VCS project description. SDG 8.6.1: - VVB team verified that Project proponent has operated the plant since 08-March-2014 and complies with targeted SDGs so far, Providing the employment to 16 person and same has been also verified during onsite visit. SDG 13.2.2: VVB team found that, the project's positive impacts, by generating 27,35,877.91 MWh clean electricity from start date to 07-

	March-2024, the project avoided release of emissions (values as mentioned below) in to the atmosphere during the reporting period.		
	Monitoring period	Electricity Generated (MWh)	Achieved Emission Reduction (tCO₂e)
	08-March-2014 to 31-December-2019	1,553,154.5	827,828
	01-Janurary-2020 to 30-April-2022	618,874	329,859
	01-May-2022 to 07-Mar-2024	5,63,849.41	300,527
	Total	27,35,877.91	1,458,214
Additional information relevant to the project	Leakage management for AFLOU project: - Not applicable to the project activity. Commercially sensitive information: - No commercially sensitive information has been excluded from the public version of the project description. VVB team conclude that the proposed project activity is eligible to register under VERRA registry and all calculations related to emission reduction are found correct. Thus accepted.		

3.2 Project Activity Instances in Grouped Projects

Not Applicable

3.3 Safeguards

3.3.1 Stakeholder Engagement and Consultation

3.3.1.1 Stakeholder Identification

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Stakeholder identification	Project proponent has identified stakeholders on the basis of affected local communities within nearby involvement project radius, government institutions, General citizens, Schools & institution. The assessment team checked the local stakeholder attendance records/ ¹⁰ /, LSC report/ ¹⁰ /, Invitation letters/ ¹⁰ /, Stakeholder Feedback(s)/ ¹⁰ /, meeting images/ ¹⁰ /, MoM/ ¹⁰ / and stakeholder identification found appropriate.
Legal or customary tenure/access rights	Assessment team, after conducting an on-site visit and reviewing the documents, has confirmed that the project activity is a run-off river hydro project commissioning of the project activity. Project proponent has obtained all the necessary consent from the host country's authority. Assessment team has checked the ownership documents and verified that, project is not violating any customary, legal and access right of the stakeholder. Same has been check during the interview with project proponent, site in-charge and stakeholder present there.
Stakeholder diversity and changes over time	Assessment team confirmed that the project has no impact on the social, economic, and cultural diversity within stakeholder groups. Same has been cross verified during interview with stakeholder and project proponent.
Expected changes in well-being	The project generates job opportunities, both directly and indirectly, for the local community during its construction and operation. Additionally, the community will experience positive economic effects as local businesses see increased income from the project's financial contributions. Assessment team has interviewed the local stakeholder and information found correct.
Location of stakeholders	Locals, and institutional were reside within the radius of the project were chosen for stakeholder consultation.
Location of resources	This is renewable energy generation project through Hydro energy and no natural resource utilization involved.

3.3.1.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder engagement process	During Onsite visit, assessment team verified that project activity is nearby Aslancık village, Doğankent village, and Dokuzkonak village. Project proponent has conducted local stakeholders were invited to the meeting beforehand via an invitation published in newspaper that included the date, time, and venue of the meeting, same has been provided above, assessment team has checked the stakeholder meeting^{/10/}, invitation newspaper^{/10/}, MoM^{/10/}, meeting photographs^{/10/}, attendance sheet^{/10/}, and other evidence and conformed that all the evidence is found consistent with interview outcomes. Assessment team verified that during document review it has checked the evidence and it is conformed that, invitation sent through public notice on dates provided in joint VCS PD & MR. Local community members were invited through public notice. Therefore, the assessment team was able to confirm that the stakeholder meeting was adequate and appropriate.
Consultation outcome	Assessment team found that, there were some suggestions received from respondents. Project proponent has incorporated the same in while preparing the documents.
Ongoing communication	Assessment team has checked the LSC documents ^{/10/} & feedback register ^{/11/} and it is found that, stakeholder communication is continuous process. PP has maintained the grievance box at the project site & any employee or stakeholder can lodge a complaint or query through the letter dropping in grievance box. Same has been verified during the site visit and interview with site in-charge and stakeholder as well. Thus, accepted.
Stakeholder input	The hydro project listened to suggestions, concerns, and opinions of stakeholders and improved the results of the environmental impact study and took comprehensive measures to prevent environmental impacts and benefit the community. Same was checked with the LSC documents ^{/10/} .

3.3.1.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Obtaining consent	The hydro power plant is installed is a run of river based hydro power plant with no utilization of any indigenous resources. Project proponents have obtained all the necessary approvals from the government before commissioning of the project. Further, no dispute/concerns were raised by the stakeholders during stakeholder meetings. The assessment team checked the same with detailed project report and also verified it through interviews with the local people during Validation site visit.
Outcome of FPIC discussion	Assessment team found that, there were some suggestions received from respondents. Project proponents have incorporated the same VCS Joint PD&MR and project proponent has bound to fulfill the report. Assessment team verified it through interviews with the local people during Joint Renewal of Crediting Period Validation and Verification site visit.

3.3.1.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Development process	Assessment team verified that project proponent has appointed a one committee for redressal of grievance received. That will be handled by site in-charge and further reviewed by management team. Assessment team checked the same as mentioned in detailed project report also verified it through interviews with the project proponent during site visit.
Grievance redress procedure	Grievance redressal mechanism is established as per company policy and assessment team verified that; any complaint register has been timely resolved and mean time it is informed to the concerned complainer who has raised the query. Assessment team checked the same and found appropriate. Further, during onsite visit, assessment team confirms that the project's grievance mechanism ensures accessibility and transparency by providing multiple channels for stakeholders to submit complaints. Villagers can record grievances directly in the

	logbook maintained at the Mukhtar's office or report them verbally to the Mukhtar, who subsequently logs and communicates them to the power plant manager. Additionally, complaints can be submitted via phone or email, as the Mukhtar maintains direct contact with the plant manager. Upon receipt of a complaint, the power plant manager reviews the issue, acknowledges it within a specified timeframe, and conducts an investigation to determine an appropriate resolution. If required, further consultations with stakeholders or higher management are undertaken. Once resolved, the complaint and its resolution are documented in the grievance logbook, ensuring a transparent record of concerns and their outcomes. This structured approach facilitates a clear and efficient grievance process, ensuring timely resolution of all project-related concerns.
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3.3.1.5 Public Comments

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
No Comments received	NA	NA

3.3.2 Respect for Human Rights and Equity

3.3.2.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Discrimination and sexual harassment	Workers including women will be employed during the project period. All workers, both women and men, will be treated equally, with no discrimination or sexual harassment tolerated. Same was checked with the companies policies and interviews with the project proponent. Assessment team confirmed same from the PP's HR policy and interviews with staff.
Management experience	The assessment team confirmed that the project proponent had the necessary management expertise to oversee the project's execution, and that the project complies with the laws and regulations of the host nation to effectively manage the organization. The human resources team is responsible for managing human rights and labor aspects, ensuring alignment with the parent company's discrimination and sexual harassment related policy. Assessment team has checked the Company policy for the

	sexual harassment and ethics committee formation procedure and member selection process. Same was found appropriate.
Gender equity in labor and work	Assessment team checked and conformed that the employees hired by Project proponent in different Positions are irrespective of genders. Also, women employees can be observed on higher positions as well. The project proponent was required by the parent company and local government to ensure gender equality in labor and work in the same line with sexual harassment related HR policy <i>and interviews with staff</i> . Assessment team has checked the company policy and found it consistent with Turkey's Conventions 100, 111, 122 and 142 ensure gender equity in labor and work.
Human trafficking, forced labor, and child labor	Assessment team verified that; project proponent does not and will not use victims of human trafficking, forced labor, and child labor. The hydro project operates in compliance with the ministry of labour and employment ¹ and does not employ victims of human trafficking, forced labor, or child labor, as required by the Act.

3.3.2.2 Human Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Human rights	The assessment team verified that there have been no violations of any member's human rights and that the project proponent has complied with the human rights of all employees and local stakeholders. The project is a run of the river based hydro power plant. The assessment team additionally affirms that, in compliance with the European Convention on Human Right on 10-Mar-1954., the project proponent consulted with local stakeholders in order to protect and advance the rights of intellectual property, customary right holders, and LCs. Same is found consistent with code of practice of project activity.

3.3.2.3 Indigenous Peoples and Cultural Heritage

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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¹ [Labour Law Reforms | Ministry of Labour & Employment | Government of India](#)

Preservation and protection of cultural heritage	The assessment team verified that project installed at the river and no indigenous people lived close to the hydro power plant and that no cultural heritage site existed in the vicinity of the project activity. These results were further verified during the site visit and interviews with the project proponent and local stakeholders.
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3.3.2.4 Property Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Rights to territories and resources	The evaluation team attested to the fact that property rights are unaffected because the project proponent is the only owner of the site. Same has been verified with the onsite visit and the assessment team deemed it to be accurate.
Respect for property rights	Assessment team verified that; the hydro power project has been installed on the river, it's a run of the river-based power plant, which is 100% authorized to the project legal owners as per the government law of turkey. Thus, after site visit and document review it was confirmed that, property rights are not affected.

3.3.2.5 Benefit Sharing

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Process used to design the benefit sharing plan	The project activity involves utilizing hydro energy to generate power for internal usage and exporting to grid. Considering that the project proponent is using this hydro power facility for generating electricity and sale to Turkey grid. Since it is not a community-based initiative, there are no requirement of benefits sharing from it, Hence, it's Not Applicable. This was confirmed by an assessment of the relevant documentation and interviews with the project proponent and local stakeholders.
Summary of the benefit sharing plan	The project activity is hydro power plant for the electricity generation purpose only, thus not applicable.

Approval and dissemination of benefit sharing plan	The project activity is hydro power plant for the electricity generation purpose only, thus not applicable.
Benefit sharing during the monitoring period	The project activity is hydro power plant for the electricity generation purpose only, thus not applicable.

3.3.3 Risks to Local Stakeholders and the Environment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Risks to stakeholder participation	The assessment team verified that the project activity comprised electricity generation through hydro power plant and that no concerns had been identified. The stakeholder consultation documents and the local stakeholder gathering also makes this prominently apparent. The VVB team states that by guaranteeing a more extensive and comprehensive stakeholder interaction channel, the project proponent has reduced this risk. To address any complaint or questions, PP developed the grievance redressal mechanism. Additionally, the project proponent is bound with company policy and government regulation to comply with to the grievance redressal. Same was confirmed during site visit interviews with PP & local stakeholders.
Working conditions	Employee productivity and well-being are affected by a wide range of elements that are included in the environment of work. These elements include workplace organization, surroundings, and physical elements. Through the project activity's rules and regulations, the VVB team verified that the working conditions were determined to be in compliance with the labor laws of the country. Same was confirmed during site visit interviews with employees.
Safety of women and girls	Assessment team verified that, within the project, the project activity provides women with opportunities for employment in management and operational roles. The project activity will keep track of the number of female staff. Moreover, assessment team confirm that, the committee has been entrusted by the project proponent to investigate any complaints made by female employees on any matter. Same has been found consistent with

	company policy. The project owner guarantees equal pay rights, prohibits any negative effects, and abides by a non-discrimination policy with regard to hiring and salary. This was verified by speaking with the project activity's monitoring staff during an onsite visit. Further, Same was found consistent with the company's policy.
Safety of minority and marginalized groups, including children	Assessment team verified that, project activity has followed the community engagement, cultural sensitivity, equal access & opportunity, anti-discrimination policy, child protection policy, same was observed at the time of site visit of the project activity. Further, no child labor was observed at the site.
Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials)	The project activity is hydro project plant, there is no air, noise, or hazardous waste generated at the project site. Same was observed at the time of site visit. VVB team confirm that, project activity compliance with the law of the host country.

3.3.4 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	The assessment team confirmed that the project does not have any impact on biodiversity and ecosystem. As a result, neither biodiversity nor ecosystem have been impacted. Same was confirmed at the time of the site visit and interview with the PP & local stakeholder.
Soil degradation and soil erosion	The assessment team confirmed that project does not have any impact on Soil degradation, neither soil erosion nor deterioration takes place. However, during the construction phase, soil quality was impacted by site use, with some risk of erosion. The construction area is primarily characterized by low agricultural value. While the region includes hazelnut forests, hazelnut plantations, and scattered forested areas, the actual project components are not situated within these zones. During the site inspection, the same thing was noted.

Water consumption and stress	Assessment team verified that; this is a run of river based hydro power plant, whereas water quality affected only during construction of Dam. Although, to ensure a sufficient supply of water, commercial organizations, and municipal authorities without wasting of water, PP installed sewage treatment facility at project site in accordance with environmental monitoring plan for project activity. Therefore, it is expected that there would be no impact from water consumption on the neighbouring villages. Thus, accepted by assessment team.
Usage of fertilizers	Assessment team verified that; project activity is hydro power plant. There is no use of fertilizer in the hydro project.

3.3.4.1 Rare, Threatened, and Endangered species

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species and habitat	The VVB team verified that no detrimental effects had been noticed in either IUCN-listed² or non-listed species. The VVB team also confirmed that the project activity complies with all applicable environmental laws and permits requirements during the project activity's onsite inspection. Local stakeholders were interviewed, and the VVB team verified that neither the project's construction nor its execution will have an impact on their living situation, nor will the project's activities impact their day-to-day activities. According to the PP and the local representative and same has been conformed with the Ecological Monitoring report. Thus, accepted by assessment team.

3.3.4.2 Introduction of Species

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
Alder, beech, pine	Assessment team verified that; the mentioned trees are planted by PP as mitigation measure to improve soil quality during construction only. Although during onsite visit, VVB team confirmed that there is no such adverse effect made to local habitat as this tree are locally available species and PP does not introduce any new species to the area.

² <https://www.iucnredlist.org/>

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
There are no invasive species	Assessment team verified that, there are no invasive species identified in the project area, so there is no need for mitigation measure to address their presence.

3.3.4.3 Ecosystem conversion

Item	Evidence gathering activities and evidence checked
Ecosystem conversion	Assessment team found that - No risks of ecosystem conversion were identified, as the project area remained undisturbed, and no natural ecosystems were cleared or drained. Comprehensive surveys and environmental assessments confirmed no significant impacts on flora or fauna, ensuring alignment with mitigation measures.

3.4 Application of Methodology

3.4.1 Title and Reference

Type I – Renewable Energy Project

CDM Methodology ACM0002 Grid-connected electricity generation from renewable sources, Version 12.3.0 and Version 22.0,

The methodology refers to following CDM tools:

- CDM Tool - “TOOL 01: Tool for the demonstration and assessment of additionality, version 7.0”
- CDM Tool - “TOOL07: Tool to calculate the emission factor for an electricity system, version 7.0”
- CDM Tool - “TOOL11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, version 3.0.1”

CAR 01 was raised on this section and closed successfully. Please refer Appendix 3 for further details.

3.4.2 Applicability

The assessment team evaluated the applicability criteria for the baseline methodology through document review and interview. The project activity's compliance with the methodology's requirements is attested to by the assessment team.

Applicability methodology **ACM0002 Grid-connected electricity generation from renewable sources, Version 22.0**^{/5/}:

Methodology ID	Applicability condition	Assessment and conclusion
ACM0002 Grid-connected electricity generation from renewable sources, Version 22.0	This methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Install a Greenfield power plant; (b) Involve a capacity addition to (an) existing plant(s); (c) Involve a retrofit of (an) existing operating plant(s)/unit(s); (d) Involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) Involve a replacement of (an) existing plant(s)/unit(s).	The project activity is a greenfield power project, generating renewable electricity using hydro power plant and is fed into the Turkish electricity grid, as checked and confirmed by the VVB through the generation license issued by Republic of Turkey Energy Market Regulatory Agency ^{/6/}. Hence the project activity meets the applicability condition of the methodology.
	In case the project activity involves the integration of a BESS, the methodology is applicable to grid-connected renewable energy power generation project activities that: (a) Integrate BESS with a Greenfield power plant; (b) Integrate a BESS together with implementing a capacity addition to (an) existing solar photovoltaic¹ or wind power plant(s)/unit(s);	Project activity is greenfield power project and not integrated with BESS as checked against the generation license by the VVB, hence the project activity does not meet the applicability condition of the methodology.

Methodology ID	Applicability condition	Assessment and conclusion
	(c) Integrate a BESS to (an) existing solar photovoltaic or wind power plant(s)/unit(s) without implementing any other changes to the existing plant(s); (d) Integrate a BESS together with implementing a retrofit of (an) existing solar photovoltaic or wind power plant(s)/unit(s).	
	The methodology is applicable under the following conditions: (a) Hydro power plant/unit with or without reservoir, wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit; (b) In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects) the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section,	The project activity is a hydropower plant with an existing single reservoir, this was confirmed by the VVB during the on-site visit and was found correct; Thus, the project activity meets applicability for option (a) and not for any other criterions.

Methodology ID	Applicability condition	Assessment and conclusion
	and no capacity expansion, retrofit, or rehabilitation of the plant/unit has been undertaken between the start of this minimum historical reference period and the implementation of the project activity; (c) In case of Greenfield project activities applicable under paragraph 5 (a) above, the project participants shall demonstrate that the BESS was an integral part of the design of the renewable energy project activity (e.g. by referring to feasibility studies or investment decision documents); (d) The BESS should be charged with electricity generated from the associated renewable energy power plant(s). Only during exigencies may the BESS be charged with electricity from the grid or a fossil fuel electricity generator. In such cases, the corresponding GHG emissions shall be accounted for as project emissions following the requirements under section 5.4.4 below. The charging using the grid or using fossil fuel electricity generator should not amount to more	

Methodology ID	Applicability condition	Assessment and conclusion
	than 2 per cent of the electricity generated by the project renewable energy plant	
	In case of hydro power plants, one of the following conditions shall apply: (a) The project activity is implemented in existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or (b) The project activity is implemented in existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density, calculated using equation (2), is greater than 4 W/m²; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (2), is greater than 4 W/m²; or (d) The project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs, calculated using equation (2), is lower than or equal to 4 W/m², all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (3), is greater than 4 W/m²;	The project activity is implemented in existing single reservoir with no change in the volume of the reservoir, this was confirmed by the VVB during the on-site visit and was found correct. Therefore, option (a) is applicable.

Methodology ID	Applicability condition	Assessment and conclusion
	(ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity; (iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² shall be: a. Lower than or equal to 15 MW; and Less than 10 per cent of the total installed capacity of integrated hydro power project.	
	In the case of integrated hydro power projects, project participants shall: (a) Demonstrate that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project; or (b) Provide an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs. The purpose of water balance is to demonstrate the requirement of specific combination of reservoirs constructed under CDM project activity for the optimization of power	This criterion is not applicable, as this is not an integrated hydro power project, as confirmed by the VVB during the on-site and was found to be correct.

Methodology ID	Applicability condition	Assessment and conclusion
	output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore, this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum of five years prior to the implementation of the CDM project activity.	
	The methodology is not applicable to: (a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site; (b) Biomass fired power plants/units.	Criteria not applicable, as this project does not switch from fossil fuels to renewable energy sources at the site, and it is not a biomass fired power plant. This project is a greenfield project, as checked and confirmed from the generation license of the plant.
	In the case of retrofits, rehabilitations, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current	Not applicable, as this project is not a capacity increase project, as checked and confirmed against the generation license of the plant.

Methodology ID	Applicability condition	Assessment and conclusion
	situation, that is to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.	

TOOL 01: Tool for the demonstration and assessment of additionality, version 7.0”/4/:

Tool ID	Applicability Criterion	Assessment and conclusion
TOOL 01, Version 07.0	The use of the “Tool for the demonstration and assessment of additionality” is not mandatory for project participants when proposing new methodologies. Project participants may propose alternative methods to demonstrate additionality for consideration by the Executive Board. They may also submit revisions to approved methodologies using the additionality tool.	This condition does not apply to the Aslancık Hydro Power Plant Project because the project does not propose a new methodology or revisions to an existing methodology.
	Once the additionally tool is included in an approved methodology, its application by project participants using this methodology is mandatory	Assessment team verified that; this condition is applicable because the additionality tool is included in an approved methodology.

TOOL 07: Tool to calculate the emission factor for an electricity system, Version 07.0/4/:

Tool ID	Applicability Criterion	Assessment and conclusion
TOOL 07, Version 07.0	This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity, i.e. where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).	Assessment team verified that it is a grid-connected hydro power plant that substitutes electricity from fossil fuel-based power plants in Türkiye's national grid. The baseline emissions are calculated using OM, BM, and CM emission factors. So, this condition is applicable.
TOOL 07, Version 07.0	Under this tool, the emission factor for the project electricity system can be calculated either for grid power plants only or, as an option, can include off-grid power plants. In the latter case, two sub-options under the step 2 of the tool are available to the project participants, i.e. option IIa and option IIb. If option IIa is chosen, the conditions specified in "Appendix 1: Procedures related to off-grid power generation" should be met. Namely, the total capacity of off-grid power plants (in MW) should be at least 10 per cent of the total capacity of grid power plants in the electricity system; or the total electricity generation by off-grid power plants (in MWh) should be at	This criterion is applicable, the project activity is an installation of a new grid connected hydro power plant/unit, thus substituting grid electricity that would be required otherwise without the project. The emission factor is being calculated for grid power plants only. This has been checked by the emission factor document as provided by the PP and confirmed by the VVB.

Tool ID	Applicability Criterion	Assessment and conclusion
	least 10 per cent of the total electricity generation by grid power plants in the electricity system; and that factors which negatively affect the reliability and stability of the grid are primarily due to constraints in generation and not to other aspects such as transmission capacity.	
TOOL 07, Version 07.0	In case of CDM projects the tool is not applicable if the project electricity system is located partially or totally in an Annex I country.	Not applicable as this project activity takes place in an Annex I country, yet this condition is not applicable, and the project is not a CDM project. The Program permits the application of the CDM methodologies and tools however is applicable to all geographical locations. Hence the project which is located in Türkiye an Annex I country is permitted to use the tool. Same was checked and confirmed by the VVB. Assessment team verified that the project activity takes place in an Annex I country, also this is not a CDM project. So, the condition is not applicable.
TOOL 07, Version 07.0	Under this tool, the value applied to the CO ₂ emission factor of biofuels is zero.	This condition is not applicable as this project activity is installation of new grid connected hydro power plant, not involving any kind of biofuels.

CDM Tool - "TOOL11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, version 3.0.1:

Tool ID	Applicability Criterion	Assessment and conclusion
Tool 11 Version 3.0.1	Step 1: Assess the validity of the current baseline for the next crediting period. Step 1.1 Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies.	The assessment team verified that it is a grid-connected hydro power plant that substitutes electricity from fossil fuel-based power plants in Türkiye's national grid. The project's baseline is identified as 'Grid-connected electricity generation.' Upon assessment, it has been confirmed that the project complies with the current legal framework. There are no new laws that have come into force affecting the project activity. Thus, the project remains consistent with the prevailing laws and regulations of its host country. Hence Applicable.
Tool 11 Version 3.0.1	Step 1.2 Assess the impact of circumstances.	Upon conducting the assessment, the Assessment team found that new national circumstances have impacted the emission factor (EF) of the grid, and consequently, the project's current baseline emissions. The EF has been updated for the second crediting period in accordance with the latest version of Türkiye's National Electric Grid Emission Factor publication available at the time of this joint validation and

Tool ID	Applicability Criterion	Assessment and conclusion
		verification. The Assessment team also noted that there has been no major deviation or change in the market characteristics during the first crediting period. Hence Applicable.
Tool 11 Version 3.0.1	Step 1.3 Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested.	The Assessment team confirms that the technical lifetime of the plant is 30 years, with equipment only requiring regular maintenance according to the registered PDD. The baseline scenario identified for the project activity was the continuation of grid-connected electricity generation. Under this scenario, no investment from the project's proponent or third party (or parties) has been envisioned later specifically for the project. The assessment also confirms that the second crediting period lies within the lifetime of the plant, starting on 07-March-2024 and ending on 08-March-2034. Hence Applicable.
Tool 11 Version 3.0.1	Step 1.4 Assessment of validity of the data and parameters.	The assessment team reviewed the emission reduction calculation and found that it is based on two main parameters i.e the grid emission factor and energy

Tool ID	Applicability Criterion	Assessment and conclusion
		produced. These parameters are in line with the requirements of the applied methodologies and tools used. It was also found that only the grid emission factor has been updated during the second crediting period renewal. The values of the latest available data for the calculation of the emission factor have been used. Hence Applicable.
Tool 11 Version 3.0.1	Step 2: Update the current baseline and the data and parameters Step 2.1: Update the current baseline	Assessment team confirms that, as verified in Step 1, considering the current sectoral policies and circumstances, the project baseline for the upcoming crediting period remains the usage of electricity from the national grid. This was found in accordance with the provisions of the most recent version of the approved methodology applicable to the project activity, specifically ACM0002 version 22.0: Grid-connected renewable electricity generation from renewable sources. Consequently, the baseline scenario was found to be remained unchanged. Hence Applicable.

Tool ID	Applicability Criterion	Assessment and conclusion
Tool 11 Version 3.0.1	Step 2.2: Update the data and parameters	The assessment team found that only the grid emission factor has been updated during the second crediting period renewal. The values of the latest available data for the calculation of the emission factor have been used. Hence Applicable.

CAR 01 has raised on this section and closed successfully. Please refer Appendix 3 for further details.

3.4.3 Project Boundary

As per ACM0002, Version 22.0 - *“The spatial extent of the project boundary includes industrial, commercial facilities consuming energy generated by the system. In the case of electricity generated and supplied to distributed users (e.g., residential users) via mini/isolated grid(s) the project boundary may be confined to physical, geographical site of renewable generating units. The boundary also extends to the project power plant and connected physically bthe electricity system that the project power plant is connected to.”*

To define the project boundary, the hydro project identifies all potential greenhouse gas emission sources, sinks, and reservoirs within the project boundary. This includes the electricity generation from the grid, electricity generation as part of the baseline, and the hydro project area for project activity.

VVB team has reviewed the following document during site visit and document review the details of documents are as follows: -

- Commissioning certificate/^{6/}
- Detailed Project Report/^{22/}
- Third Party PLF Report (PVsyst Report)/^{30/}
- Meter Test Reports /^{23/}
- Plant as built layout/^{14/}
- Generation Records of the plant/^{8/}

Each component identified during the site visit is found to be in line with the submitted evidence.

The spatial extent of the project boundary includes industrial, commercial facilities consuming energy generated by the system. In the case of electricity generated and supplied to distributed users (e.g. residential users) via mini/isolated grid(s) the project boundary may be confined to physical, geographical site of renewable generating units. The boundary also extends to the project power plant and all power plants connected physically to the electricity system to which the project power plant is connected.

The project activity will displace electricity from Turkish Grid, which is supplied by predominantly fossil fuel plants. The project activity instances would replace equivalent quantum of fossil fuel dominated grid power that's being used prior to the project activity instances.

Source	Gas	Included?	Assessment and conclusion
Baseline	CO ₂	Yes	VVB team confirm that the project has included CO ₂ source as Major source and is conservative & in line with methodology. This amount of emission reduction will be monitored as per monitoring plan in the Joint Project Description and Monitoring Report.
	CH ₄	No	VVB team verified that methane emission i.e. CH ₄ is not included in project activity being conservative & in line with methodology. Thus, not applicable.
	N ₂ O	No	VVB team verified that, Nitrous oxide emission i.e. N ₂ O is not included in project activity conservative & in line with methodology. Thus, not applicable
Project	CO ₂	No	VVB team verified that, CO ₂ is not included in the project activity. Thus, not applicable.
	CH ₄	No	VVB team verified that, methane emission i.e. CH ₄ is not included in project activity. Thus, not applicable.
	N ₂ O	No	VVB team verified that, Nitrous oxide emission i.e. N ₂ O is not included in project activity as no project emissions associated with project activity & in line with meth. Thus, not applicable

VVB team verified that details of the project boundary and each selected sources, sinks and reservoirs are appropriately justified for the project activity.

3.4.4 Baseline Scenario

The Project activity is defined as the continued reliance on electricity generated from fossil fuel-fired power plants connected to the national grid. In the absence of the project, the electricity demand would be met by existing grid sources, which predominantly utilize fossil fuels, resulting in significant greenhouse gas emissions.

As a Greenfield project, there were no previous power plants at the project site, meaning that the baseline scenario does not involve any retrofitting or replacement of existing facilities. The project is designed to generate renewable energy from hydro sources, representing a substantial shift from the baseline's dependence on fossil fuels.

As per ACM0002, version 22.0 prescribes the baseline scenario for Greenfield power plants as the following:

“If the project activity is the installation of a Greenfield power plant with or without a BESS as described under paragraph 5(a) or paragraph 7(a) or paragraph 7(e) above, the baseline scenario is electricity delivered to the grid by the project activity that would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in TOOL07.”

The methodological tool 11 “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” (version 03.0.1) is adopted to assess the continued validity of the baseline and to update the baseline. Tool 11 provides a stepwise procedure to assess the continued validity of the baseline and to update the baseline at the renewal of a crediting period, as required by paragraph 49 (a) of the modalities and procedures of the clean development mechanism. According to Tool 11 the following steps are applied.

Step 1: Assess the validity of the current baseline for the next crediting period

The validity of the current baseline is assessed using the following Sub-steps:

Step 1.1 Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies.

The project baseline is the “Grid-connected electricity generation”. It is in compliance with the current legal framework. There are no additional laws that came into force that has an impact on the project activity and the project activity is still in line with the available law and regulations.

Step 1.2 Assess the impact of circumstances.

The new national circumstances have an impact on the EF of the grid and thus on the project's current baseline emissions. Accordingly, the EF is updated for the second crediting period in conformity with the latest version of the publication of the Türkiye's National Electric Grid Emission Factor for the year of 2021. There has been no major deviation or change in the market

characteristic during the first crediting period. The plant's capacity was increased 5 MWe on 18-Dec-2017 from 93 MWe to 98 MWe during the first monitoring period.

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

According to the registered PDD, the technical lifetime of the plant is 30 years. Equipment only requires regular maintenance. The baseline scenario identified at the validation of the project activity was the continuation of grid-connected electricity generation. Under this scenario, no investment from the project's proponent or third party (or parties) has been envisioned later specifically for the project.

Step 1.4 Assessment of validity of the data and parameters.

The emissions reduction calculations are based on two main parameters: the energy produced and the grid emission factor. The latter will be updated as explained in the next paragraph.

As a requirement of the methodology, only the grid emission factor has been updated during the second crediting period renewal.

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

Step 2.1: Update the current baseline

As confirmed in Step 1, under the current context of the sectoral policies and circumstances, the project baseline for the next crediting period is the use of electricity from the national grid. This is conformed to the provisions of the latest version of the approved applicable methodology to the project activity namely: ACM0002 version 22: Grid-connected renewable electricity generation from renewable sources. So, there has been no deviation in the baseline scenario.

Step 2.2: Update the data and parameters

The grid emission factor is updated according to the publication of Turkish Ministry of Energy and Natural Resources which is indicating Türkiye's National Electric Grid Emission Factor for the year of 2021 which is the latest data up to date.

Grid Emission Factor Calculation: -

The combined margin of the Turkish National Grid used for the project activity is as follows:

Parameter	Value	Nomenclature	Source
$EF_{grid,CM,y}$	0.44755 tCO ₂ /MWh	Combined margin CO ₂ emission factor in year y	Türkiye's National Electric Grid Emission Factor for the year of 2021

$EF_{grid, OM, simple, y}$	0.7279 tCO ₂ /MWh	Operating margin CO ₂ emission factor in year y	Türkiye's National Electric Grid Emission Factor for the year of 2021
$EF_{grid, BM, y}$	0.3541 tCO ₂ /MWh	Build margin CO ₂ emission factor in year y	Türkiye's National Electric Grid Emission Factor for the year of 2021

Assessment team conclude that the above-mentioned baseline scenario is in line with the applied methodology “ACM0002, Version 22.0: Methodology for Grid-connected electricity generation from renewable sources. Same is also reflected in final Joint PD&MR. Thus accepted.

The combined margin emissions factor is calculated as follows:

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

Where:

$EF_{grid, BM, y}$ = Build margin CO₂ emission factor in year y (t CO₂/MWh)

$EF_{grid, OM, y}$ = Operating margin CO₂ emission factor in year y (t CO₂/MWh)

w_{OM} = Weighting of operating margin emissions factor (per cent)

w_{BM} = Weighting of build margin emissions factor (per cent)

$$\begin{aligned} EF_{grid, CM, y} &= 0.7279 \times 0.25 + 0.3541 \times 0.75 \\ &= 0.44755 \text{ (tCO}_2\text{/MWh)} \end{aligned}$$

In addition, there was no change for the capacity and reservoir area during the 1st crediting period. Therefore, Even, newest version of ACM0002 version 22.0 state as the monitoring frequency: "Once at the beginning of each crediting period" for CAP_{PJ} and A_{PJ} parameters. It is apparent that these two parameters, which are monitored in last monitoring period under 1st crediting period, do not need to be monitored for the next verifications under 2nd crediting period. Thus, only parameter will be monitored for the next verification periods under 2nd crediting period will be “ $EG_{facility, y}$,” which is related to electricity production.

3.4.5 Additionality

In accordance with the paragraph 3.9.8, part 1 of VCS Standard v. 4.7,

“A full reassessment of additionality is not required when renewing the project crediting period unless otherwise specified in the methodology, However, regulatory surplus shall be demonstrated in accordance with the requirements set out in the VCS Program rules and the project description shall be updated accordingly”

Project compliance with applicable laws, statutes and other regulatory surplus / frameworks

Project proponent has demonstrated the regulatory Surplus in accordance with the requirements set out in the VCS Program V.4.7 under Section 3.5.2 of revised Joint PD and MR submitted for RCP. Assessment team confirms that there is no any regulation to install the hydropower projects and the project activity is a voluntary step taken by PP. Baseline emission factor as mentioned in Section 3.4 of Joint PD and MR shows that the fossil fuel-based power generation is dominant over the renewable based power generation, thus baseline scenario remains same as original. As discussed, inspection 3.5.2 of VCS Joint PD and MR, there is no any Impact of the national and/or sectoral policies and circumstances upon the baseline scenario of the project activity and project activity is additional as per CDM Tool for the demonstration and assessment of additionality and as per VCS Program rules.

Laws as relevant to the project are (Law No. and Publication Date in Official Gazette):

- (1) Electricity Market Law (6446, 30-03-2013)³
- (2) Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy (5346, 18-05-2005)⁴
- (3) Environment Law (2872, 11-08-1983)⁵
- (4) Occupational Health and Safety Regulation (6331, 30-06-2012)⁶
- (5) Forest Law (Nr. 6831)⁷

Assessment team confirms that any enforced law, statute, regulatory surplus, or other regulatory framework shall not mandate the project. The project activity is not mandated by any state or national laws. The project proponent is not bound by any legislative mandate to implement the project activity

The project is in compliance with the given laws. Assessment team confirms that the description of the VCS project activity, as contained in the VCS Joint PD & MR sufficiently covers all relevant elements, is accurate and complete and that it provides the reader with a clear understanding of the nature of the VCS project activity.

The additionality will be similar to the conditions mentioned in the registered and validated VCS PD of 1st crediting period. As per paragraph 3.9.8 of VCS standard version 4.7, a full reassessment of additionality is not required when renewing the project crediting period. The validity of the original baseline scenario is demonstrated in Section 3.4, and it was concluded that the current

³ <https://www.resmigazete.gov.tr/eskiler/2013/03/20130330.pdf>

⁴ <https://www.resmigazete.gov.tr/eskiler/2005/05/20050518-1.htm>

⁵ <http://www.mevzuat.gov.tr/MevzuatMetin/1.5.2872.pdf>

⁶ <http://www.mevzuat.gov.tr/MevzuatMetin/1.5.6331.pdf>

⁷ <https://www.mevzuat.gov.tr/MevzuatMetin/1.3.6831.pdf>

baseline is still valid for the next crediting period. Only Grid emission factors have been updated for the second crediting period. The demonstration of Regulatory Surplus in line with the requirements set out in paragraph 3.9.8 of VCS standard, version 4.7 the VCS Program is given below:

There is no any regulation to install the Hydro Powerproject sand the project activity is a voluntary step taken by PP. In Turkey, the fossil fuel based thermal power generation is dominant over the renewable based power generation, there is no any Impact of the national and/or sectoral policies and circumstances upon the baseline scenario of the project activity and project activity is additional as per CDM Tool for the demonstration and assessment of additionality and as per VCS Program rules.

3.4.6 Quantification of GHG Emission Reductions and Carbon Dioxide Removals

Assessment team checked the baseline, project and leakage calculation and confirm that the evaluation of baseline, project and leakage is as per the approved methodology and formula used to calculate the same is correct. The detail analysis is as below:

Baseline Emissions: As per para 39 the approved consolidated Methodology ACM0002, VERSION 22.0 (Version 1.0): Baseline emissions include only CO₂ emissions from electricity generation either in grid-connected and or captive fossil fuel fired power plants that are displaced due to the project activity. The baseline emissions are to be calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} \times w_{OM} + EF_{grid,BM,y} \times w_{BM} \quad \text{Equation (6)}$$

Where:

BE_y	=	Baseline emissions in year y (t CO ₂ /yr)
$EG_{PJ,y}$	=	Quantity of net electricity generation that is produced and supplied to a captive consumer as a result of the implementation of the CDM project activity in year y (MWh/yr)
$EG_{PJsurplus,y}$	=	Quantity of the surplus electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)
$EF_{CO2,y}$	=	The electricity emission factor (t CO ₂ /MWh) of the baseline electricity source
$EF_{grid,y}$	=	The emission factor of the grid (t CO ₂ /MWh) following the procedures described in TOOL07

The calculation of $EG_{PJ,y}$ for net generation is calculated as follows:

$$EG_{PJ,y} = EG_{facility,y} \quad \text{Equation (7)}$$

Where:

- $EG_{PJ,y}$ = Quantity of net electricity generation that is produced and supplied to a captive consumer as a result of the implementation of the CDM project activity in year y (MWh/yr)
- $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the captive consumer in year y (MWh/yr)

Project Emissions: -

As per para 46 of the approved consolidated Methodology ACM0002, Version 22.0: "For most renewable energy power generation project activities -

$$PD \left(\frac{W}{m^2} \right) = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}}$$

where,

PD = Power density of the project activity (W/m²)

Cap_{PJ} = Installed capacity of the hydro power plant after the implementation of the project activity (W)

Cap_{BL} = Installed capacity of the hydro power plant before the implementation of the project activity (W). For new hydro power plants, this value is zero

A_{PJ} = Area of the single or multiple reservoirs measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m²)

A_{BL} = Area of the single or multiple reservoirs measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m²). For new reservoirs, this value is zero.

Since Aslancık HEPP is a Greenfield run-of-river hydro power plant, according to the applied methodology, Cap_{BL} and A_{BL} are zero. Thus, the project density is calculated as:

$$PD \left(\frac{W}{m^2} \right) = \frac{98,000,000 \text{ W}}{160,000 \text{ m}^2} = 612.5 \text{ W/m}^2$$

According to the methodology, "If the power density of the project activity is greater than 10 W/m²: $PE_{HP,y} = 0$." Since PD of Aslancık HEPP is 612.5 W/m², the project emissions are "0."

Leakage Emissions: Since the project activity instances to be included into the project activity are renewable energy projects based on run of river based hydro power technology, no leakage emissions are considered. The emissions potentially arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g., extraction, processing, transport etc.) are neglected.

Hence, Leakage emission is considered as “0”.

Year	Estimated baseline emissions or removals (tCO ₂ e)	Estimated project emissions or removals (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated net GHG emission reductions or removals (tCO ₂ e)
08-Mar-2024 to 31-Mar-2024	157,143	0	0	157,143
01-Jan-2025 to 31-Dec-2025	191,830	0	0	191,830
01-Jan-2026 to 31-Dec-2026	191,830	0	0	191,830
01-Jan-2027 to 31-Dec-2027	191,830	0	0	191,830
01-Jan-2028 to 31-Dec-2028	191,830	0	0	191,830
01-Jan-2029 to 31-Dec-2029	191,830	0	0	191,830
01-Jan-2030 to 31-Dec-2030	191,830	0	0	191,830
01-Jan-2031 to 31-Dec-2031	191,830	0	0	191,830
01-Jan-2032 to 31-Dec-2032	191,830	0	0	191,830
01-Jan-2033 to 31-Dec-2033	191,830	0	0	191,830
01-Jan-2034 to 07-Mar-2034	34,687	0	0	34,687
Total	1,918,300	0	0	1,918,300

Assessment team concluded that the project activity has applied the methodology and referred tools correctly to calculate baseline emissions, project emissions, leakage and net GHG emission reductions and removals during the project crediting period.

3.4.7 Methodology Deviations

There is no methodology deviations are applied in Project for renewable of Crediting period.

3.4.8 Monitoring Plan

The assessment team checked the monitoring practice onsite and checked the guideline of respective State electricity regulatory commission. The detail analysis is as below:

Parameters determined ex-ante:

Baseline emission factor of Turkish Grid is established ex-ante based on Tool to calculate the grid emission factor, using a combined approach consisting of 75 % operating margin and 25 % build margin. The emission coefficient from official data published in Türkiye's National Electric Grid Emission Factor for the year of 2021 /31/ available to the project proponent at the time of submission of joint VCS PD & MR for joint validation & Verification and global stakeholder's consultation process. The assumption was verified by the validation team and found to be correct.

Data and Parameters	Ex-ante Determined Value	Unit	Source of Data
EF _{grid,OM,y}	0.7279	tCO ₂ e/MWh	Türkiye's National Electric Grid Emission Factor for the year of 2021 /31/
EF _{grid,BM,y}	0.3541	tCO ₂ e/MWh	
EF _{grid,CM,y}	0.44755	tCO ₂ e/MWh	

Parameters determined ex-Post:

Sr. No.	Parameter	Description	Measurement method and QA/QC procedures and Assessment
1	EG _{facility, y}	Quantity of net electricity generation supplied by Aslancık HPP to the grid	The verification team has checked the electricity generation is conducted using two electricity meters (main and backup meter) to ensure redundancy and minimize uncertainty in the measurements. The meters operate continuously, and data is collected electronically by TEIAS, ensuring that 100% of the data is monitored without sampling. This comprehensive monitoring approach guarantees high data quality, which is essential for

			accuratebaselineemissions <table><tr><td>Make</td><td>EMH & LZQJ - XC</td></tr><tr><td>Accuracy Class</td><td>0.2s</td></tr><tr><td>Main Meter 1</td><td>11172808</td></tr><tr><td>Main Meter 2</td><td>11172810</td></tr><tr><td>Backup Meter 1</td><td>11172809</td></tr><tr><td>Backup Meter 2</td><td>11172811</td></tr><tr><td>Calibration Frequency</td><td>Once in 5 years</td></tr><tr><td>Date of Calibration</td><td>22/03/2022</td></tr><tr><td>Validity of Calibration</td><td>22/03/2032</td></tr></table> calculations. The Monitoring of electricity is done by Energy meters: The meters were installed and calibrated on 22-Mar-2022, with a calibration cycle of 10 years as per regulatory requirements. Periodic tests are conducted every two years by TEİAS to ensure ongoing compliance and accuracy of the meters. The meters comply with the standards set by the Turkish Standards Institute and have received the necessary approvals from the Ministry of Trade and Industry, ensuring that they meet the regulatory requirements for operation in the electricity market.	Make	EMH & LZQJ - XC	Accuracy Class	0.2s	Main Meter 1	11172808	Main Meter 2	11172810	Backup Meter 1	11172809	Backup Meter 2	11172811	Calibration Frequency	Once in 5 years	Date of Calibration	22/03/2022	Validity of Calibration	22/03/2032
Make	EMH & LZQJ - XC																				
Accuracy Class	0.2s																				
Main Meter 1	11172808																				
Main Meter 2	11172810																				
Backup Meter 1	11172809																				
Backup Meter 2	11172811																				
Calibration Frequency	Once in 5 years																				
Date of Calibration	22/03/2022																				
Validity of Calibration	22/03/2032																				
2	CapPJ	Installed capacity of the hydro power plant after the implementation of the project activity.	This parameter is measured based on the installed capacity on yearly basis. The monitored value is 120 MWm / 98 MWe, with annual monitoring ensuring compliance with methodologies and supporting power density calculations.																		
3	APJ	Area of the reservoir measured in the surface of the water, after the implementation of the	This parameter is measured at each crediting period renewal. And this is measured from the topographical surveys and maps. The value of the parameter is 160,000 m².																		

		project activity, when the reservoir is full.	
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Monitoring Arrangement:

The net generated electricity from the hydro is measured using an energy meter located at the project site. TEİAŞ performs read-out on these electricity meters at 00:00 of the first day of each month and calculate monthly net electricity fed into the grid. TEİAŞ publishes the results online on the EPIAŞ website. The EPIAŞ website is accessible to the project proponent with their unique user ID and password. The project owner can access and monitor the electricity generation data 24 hours a day. Once accessed, the project owners are able to call electricity generation and consumption reports of their own projects. The same reports are used by them for invoicing purposes.

Organizational structure and responsibilities:

The responsibilities and authorities of project management, data handling and recording, measurement methods and QA/QC procedure have been systematically established and formalized and the same was verified during the online visit.

Data Measurement & Data collection and archiving:

Data measurement and collection for this project are conducted through a robust system involving both primary and backup electricity meters. The plant is equipped with one main and one backup electricity meter installed at the substation, ensuring redundancy and minimizing uncertainty in the data collected. These meters continuously measure the net electricity generation supplied to the grid, with readings taken monthly by TEİAŞ, the Turkish Electricity Transmission Company. The data is then published on the EPIAŞ website, where the project owner can access it using a secure login. The monitored values, including the installed capacity of 120 MWm and 98 MWe, are archived electronically for at least two years after the crediting period, ensuring that all relevant information is systematically organized and readily available for audits and compliance reporting.

QA/QC Procedures:

The energy meters are installed at the respective project site. The calibration of all the meters will be undertaken at required intervals (at least once in five years) and faulty meters will be duly replaced immediately. Records of calibration certificates will be maintained for verification purposes. Hence, a reliable method will be ensured with monitoring of the parameters. The monthly meter reading data will be used and kept for cross checking the consistency of the recorded data.

Apportioning: -

In case of mismatch of date between the start date of the billing cycle and the start date of monitoring period the data will be apportioned in line to the daily generation values for the said mismatch period.

Personnel training:

Training is provided to the staff. The training programs focus on safety protocols, operational procedures, and environmental management practices. These sessions include practical demonstrations and assessments to ensure staff understand and comply with safety regulations. Additionally, ongoing refresher courses are conducted to keep staff updated on any new risks or changes in procedures, promoting a culture of safety and competency within the workforce. The validation team confirmed the above by reviewing the monitoring manual set by PP and confirmed the implementation of the training through the training records.

Based on the on-site visit and interviewed with the site in-charge and project proponent representative Manager of PP the VVB team confirmed that monitoring parameter has been correctly described in the updated Joint PD & MR and in compliance with the methodology ACM0002, Version 22.0 and the guidance given by VCS Standard version 4.7 and VCS program guide version 4.4.

3.5 Non-Permanence Risk Analysis

Not applicable for the present project activity.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The Joint PD & MR formulae for calculating emission reductions, as certified by the used methodology ACM0002, Version 12.3.0^{5/} and have been examined and deemed to be accurate. The Joint PD & MR^{1/} values and the Actual ER verification sheet^{2/} values have been compared. Additionally, the formulas used in the Actual ER spreadsheet were examined and confirmed to be in line. The assessment team certifies that all calculations are performed in accordance with the formulae specified in the both applied methodology ACM0002, Version 12.3^{5/} the monitoring plan requirements, that all parameters are used correctly, that all results are transparent and verifiable, and that all assumptions are described and supported by verifiable evidence.

Implementation Status

Assessment steps, evidence checked, & conclusion:

Project implementation	This project involves is a 98 MWe run-of-river, dam-based hydroelectric power plant located in Türkiye's Giresun province. It harnesses the flow of Harşit Creek to generate renewable electricity, displacing fossil fuel-based energy in the national grid. Operational since 08-March-2014, the plant was initially commissioned with an installed capacity of 93 MWe, which was increased to 98 MWe in 18-December-2017. The facility includes a reservoir, energy tunnel, penstock, and powerhouse equipped with two Francis turbines, each with a rated capacity of 60 MWm/49 MWe. During the monitoring period from 01-May-2022, to 07-March-2024, the project produced 563,847.46 MWh of emission-free electricity, resulting in a total greenhouse gas (GHG) emission reduction of 300,527 tCO₂e.
Monitoring plan	The monitoring plan is developed in accordance with the modalities and procedures for project activities. This involves continuous tracking of net electricity supplied to the grid using calibrated meters and recording flow rates of Harşit Creek. It includes periodic verification of data accuracy, proper maintenance of monitoring equipment, and documentation of all measurements and calculations. Data Measurement Data measurement of this project is conducted through the monitoring system which includes the installation of two electricity meters (one main and one reserve) to ensure accuracy in data collection. The meters record the net electricity generated and supplied to the national grid, with readings taken on the last day of each month by EPIAS. These records are cross-verified with on-site meter readings and electronic spreadsheets provided by TEIAS, which detail daily and monthly electricity generation and withdrawal amounts. This comprehensive approach ensures high data quality and reliability for monitoring the project's emission reductions. Data collection and archiving Data for the Aslancık HPP project is collected through continuous monitoring of electricity generation and flow rates, using calibrated meters and equipment installed at the site. The data is recorded digitally and cross-verified periodically to ensure accuracy. All relevant records and supporting documents are securely archived

	in both physical and electronic formats, ensuring traceability and compliance with the Verified Carbon Standard (VCS) requirements throughout the crediting period. Emergency preparedness The Aslancık HPP has implemented an emergency preparedness plan to address potential risks. This includes safety training for staff, regular equipment maintenance. These measures ensure the safety of personnel, stakeholders, and the environment while maintaining uninterrupted operation. QA/QC Procedures Their energy meters are installed at the respective project site. The calibration of all the meters will be undertaken at required intervals (once is five years) and faulty meters will be duly replaced immediately. Records of calibration certificates will be maintained for verification purposes. Hence, a reliable method will be ensured with monitoring of the parameters. The monthly meter reading data will be used and kept for cross checking consistency of the recorded data. Sampling Approach Not required Personnel training Personnel training at the Aslancık HPP focuses on equipping staff with the necessary skills for safe and efficient operation. Training sessions cover technical aspects of plant operations, safety protocols, emergency response, and environmental management practices. These programs are conducted periodically to ensure that personnel remain updated on procedures and standards, contributing to the plant's overall operational reliability and compliance.
AFOLU-specific project implementation	Not applicable as this is not a AFOLU project activity.

4.2 Accuracy of Reduction and Removal Calculations

The verification team conducted an onsite audit and interviews with the project's onsite representatives, physically verified the hydropower plant components, and reviewed relevant documents. The team concluded that the project activity is implemented and operated in compliance with the registered VCS joint PD & MR. There are no changes in the SDG indicator labeling, project design, or monitoring practices that would affect the project's applicability or operation. The verification team confirmed that calculations for baseline GHG emissions, project GHG emissions, and leakage GHG emissions were performed in accordance with the methodologies and formulae outlined in the monitoring plan of the Joint VCS PD & MR./^{4/}. The following list includes the information and factors used to determine the removal and reduction of GHG emissions in for current Monitoring Period from 1st Crediting period:

Below Mentioned value of Emission factor calculated as per Ex-ante parameters considered during 1st crediting period:

Data and Parameters	Ex-ante Determined Value	Unit	Source of Data	Source of Data
EF _{grid,OM,y}	0.653	tCO ₂ e/MWh	Türkiye's National Electric Grid Emission Factor for year 2010, considered in registered PDD	According to the official published data by TEİAŞ, the set of power capacity additions in the electricity system that comprise 20% of the system generation and that have been built most recently have larger electricity generation. Hence, figures of set of SET≥20% have been taken into consideration for BM calculation. The ex-ante option was used by the PP to calculate the BM. The validation team confirms that the most recent information available has been used for calculation. Hence, the selection of the method of BM calculation is justified.
EF _{grid,BM,y}	0.413	tCO ₂ e/MWh		The electricity generation, fuel consumption data, etc. for specific power plants/units serving the grid are not available to the public or to the PP. Hence, the Option B was applied to calculate the OM factor. The validation scrutinized the OM calculation and confirms that the parameters used in the calculation are fully consistent with Official published data by TEİAŞ.

EF _{grid,CM,y}	0.533	tCO ₂ e/MWh	As per “Tool to calculate the emission factor for an electricity system”, wOM = 0.5 and wBM = 0.5 are applied for the first crediting period.
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Ex-Ante Parameters considered during 1st crediting period as per registered PDD are mentioned as below;

Parameter	Description	Justification
FC _{HV,i,y}	Amount of fuel combusted for electricity production in Turkey in the years 2008-2010.	The value is used in the calculation of the Emission factor (0.533 tCO ₂ e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO ₂ e/MWh. The value data on the parameter is available in the validated registered PD, which has been checked. Hence it is confirmed that the ex-ante details presented on the ex-ante parameter is found appropriate
EF _{CO2,i,y} EF _{CO2,i,m,y}	/ Carbon emission factors of fuels used for combustion for electricity production by fuel type (IPCC default values at the lower limit of the uncertainty at a 95% confidence interval)	The value is used in the calculation of the Emission factor (0.533 tCO ₂ e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO ₂ e/MWh. The value data on the parameter is available in the validated registered PD, which has been checked. Hence it is confirmed that the ex-ante details presented on the ex-ante
E _y	Gross electricity imports to the Turkish national grid 2008-2010.	The value is used in the calculation of the Emission factor (0.533 tCO ₂ e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO ₂ e/MWh. The value data on the parameter is available in the validated registered PD, which has been checked. Hence it is confirmed that the ex-ante details presented on the ex-ante parameter is found appropriate.
EG _{TOTAL,y,GROSS}	Gross electricity production in Turkey in 2008-2010.	The value is used in the calculation of the Emission factor (0.533 tCO ₂ e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO ₂ e/MWh. The value data on the parameter is available in the validated registered PD, which has been checked. Hence it is confirmed that the ex-ante details presented on the ex-ante parameter is found appropriate

EG _{TOTAL,y,NET}	Net electricity production in Turkey in 2008-2010.	The value is used in the calculation of the Emission factor (0.533 tCO ₂ e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO ₂ e/MWh. The value data on the parameter is available in the validated registered PD, which has been checked. Hence it is confirmed that the ex-ante details presented on the ex-ante parameter is found appropriate.
Capacity addition	Power plants most recently added to the Turkish electricity system and representing 20% of total current (i.e. 2010) generation	The value is used in the calculation of the Emission factor (0.533 tCO ₂ e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO ₂ e/MWh. The value data on the parameter is available in the validated registered PD, which has been checked. Hence it is confirmed that the ex-ante details presented on the ex-ante parameter is found appropriate.
EG _{m,y,GROSS}	Annual gross generation of the power plants most recently added to the system and representing 20% of total current (i.e. 2010) gross generation in Turkey.	The value is used in the calculation of the Emission factor (0.533 tCO ₂ e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO ₂ e/MWh. The value data on the parameter is available in the validated registered PD, which has been checked. Hence it is confirmed that the ex-ante details presented on the ex-ante parameter is found appropriate.
EG _{LC-MR,y,GROSS}	Gross electricity production from low-cost/must-run sources in Turkey 2008-2010.	The value is used in the calculation of the Emission factor (0.533 tCO ₂ e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO ₂ e/MWh. The value data on the parameter is available in the validated registered PD, which has been checked. Hence it is confirmed that the ex-ante details presented on the ex-ante parameter is found appropriate.

Ex-post parameters

Data and Parameters	Description	Current Project Contribution	Assessment by VVB
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EG _{facility,y}	Quantity of net electricity generation supplied by Aslancık HPP to the grid	563,847.46 MWh zero-emission electricity delivered to the national grid during 3 rd monitoring period of 1 st Crediting Period.	During the onsite visit and through review of generation data from TEİAŞ – EPIAS web site and monthly TEIAS meter readings, it has been confirmed that the data has been monitored continuously by bidirectional metering devices, which provides the data for the monthly invoicing to TEİAŞ. The EPIAS web site cross checked with records of TEIAS, recorded continuously, read remotely by TEIAS, and accessible monthly. Reported annually on the VCS Monitoring Report as verified by the verification team through assessment. All meters were found to follow the communiqué for Metering Devices to be used in the Electricity Market. The power plant has two units, there is a main and backup meter for both units; hence the total meters are 4 (four) in number. The calibration and calibration dates of the meters provided below is already verified during previous verification: <table><tr><td>Make</td><td>EMH & LZQJ - XC</td></tr><tr><td>Accuracy Class</td><td>0.2s</td></tr><tr><td>Main Meter 1</td><td>1117280</td></tr><tr><td>Main Meter 2</td><td>8 1117281 0</td></tr><tr><td>Backup Meter 1</td><td>1117280</td></tr><tr><td>Backup Meter 2</td><td>9 1117281</td></tr></table>	Make	EMH & LZQJ - XC	Accuracy Class	0.2s	Main Meter 1	1117280	Main Meter 2	8 1117281 0	Backup Meter 1	1117280	Backup Meter 2	9 1117281
Make	EMH & LZQJ - XC														
Accuracy Class	0.2s														
Main Meter 1	1117280														
Main Meter 2	8 1117281 0														
Backup Meter 1	1117280														
Backup Meter 2	9 1117281														

				1
			Calibration Frequency	Once in 10 years
			Date of Calibration	22/03/2022
			Validity of Calibration	21/03/2032
			The meters are factory calibrated during installation and calibrated periodically by the grid operator. The calibrations are valid for 10 years as per National standard requirements. During previous verification period, meters were changed on 22/03/2022 as per TEIAS energy meters change policy of 10 years⁸. However, TEIAS is testing the meters every 2 years as per their internal protocol⁹. As the meters were changed on 22/03/2022 accordingly, next calibration would be carried out on 21/03/2032 as per frequency set by TEIAS. Hence both the meters follow the host country calibration regulations and had valid calibrations during the entire monitoring period.	

As a part of monitoring plan, the assessment team found, checked and confirmed that following sustainable development goals are considered which are appropriate and are measurable.

⁸ <https://www.mevzuat.gov.tr/anasayfa/MevzuatFihristDetayIframe?MevzuatTur=7&MevzuatNo=6381&MevzuatTertip=5> And <https://www.teias.gov.tr/en-US>

⁹ As per signed TEİAŞ System Usage Agreement.

Sr. No.	SDG Target	SDG Indicator	Current project contributions	Assessment by VVB
1	7.2	7.2.1 Renewable energy share in the total final energy consumption	The project activity provides 98 MWe installed capacity of renewable energy. It delivered 563,847.46 MWh zero-emission electricity to the national grid for the third monitoring period.	VVB team has confirmed that the project has resulted increased generating of clean electricity from renewable hydro power plant and has produced an 563,847.46 MWh. This confirms the project's successful contribution towards promoting clean and sustainable energy solutions.
2	8.5	8.5.1 Average hourly earnings of employees, by sex, age, occupation and persons with disabilities	16 employees were provided employment during the monitoring.	VVB team has confirmed that the project has employed 16 employees for current monitoring period, same has been checked and verified from Employment records/ ^{26/} provided by PP during Joint Renewal of Crediting Period Validation and Verification Process.
3	13.2	13.2.2 Total greenhouse gas emissions per year	The project activity directly contributed to the targeted SDG by achieving 300,527 tCO ₂ e of emission reductions during the third monitoring period, through clean energy generation and displacing emission-intensive energy in the national grid.	VVB team has confirmed that the calculations in the submitted Emission Reduction (ER) sheet/ ^{1/} , ensuring the precision of the data, parameters, and equations used, thereby affirming the accuracy of the emission reduction

Sr. No.	SDG Target	SDG Indicator	Current project contributions	Assessment by VVB
				computation. The project reports an estimated annual average of GHG emission reduction of 222,884 tCO ₂ e and a total emission reduction of 2,222,840 tCO ₂ e over the entire First crediting period of 10 year, the project activity has achieved a total GHG emission reduction of 300,527 tCO ₂ e for current monitoring period.

4.3 Quality of Evidence to Determine Reductions and Removals

Review of ER sheet (ex-ante and ex-post) reveals that the comparison of actual GHG emission reductions with those in Joint PD & MR estimates:

Details and steps taken by the assessment team related to the sufficiency of quantity, and appropriateness of quality, of the evidence to verify the monitoring parameters are mentioned under section 4.1 of this report. Assessment team has checked the calculation for the determination of the emission reductions and found them correct and accurate and assessment team confirms the sufficiency of quantity, and appropriateness of quality, of the evidence used to determine the GHG reductions and removals for this verification period.

VVB team verified that, all the necessary documentations are collected, referenced and aggregated, which is easily accessible, Measurements are performed by calibrated equipment, and the key data can also be cross-checked via other sources, such as records etc. No assumptions are used that have any material influence on reported emission reductions. VVB team concludes that during this monitoring period, the evidence for determination of emission reductions is sufficient and reasonable, and the calculation of emission reductions is reliable.

5 VALIDATION AND VERIFICATION OPINION

5.1 Validation and Verification Summary

Life İklim ve Enerji Ltd. Şti (Project Proponent) engaged LGAI Technological Center, S.A. (also known as Applus+ Certification) to conduct a Joint Renewal of Crediting Period Validation and Verification of the VCS project activity VCS 917 "Aslancık Hydro Power Plant Project".

The validation and verification process were conducted in accordance with the VCS Standard, version 4.7/^{3/}, VCS Program Guide, version 4.4/^{3/}, and Registration & Issuance Process, version 4.4/^{3/}. The project activity was assessed against the baseline & monitoring methodology ACM0002, version 12.3.0 and version 22.0/^{5/} and the information provided in the Joint PD & MR/^{1/} was evaluated as per the requirements of the VCS Standard, version 4.7/^{3/}. Applus+ Certification utilized a risk-based methodology for validation, concluding that the project activity is expected to reduce emissions by 1,918,300 tCO₂e over its Second crediting period of 10 years. The validation opinion, as stated in the Joint PD & MR/^{1/}, affirms compliance with all applicable VCS requirements, including those outlined in the CDM Project Standard, version 3.0.

For verification analysis, Applus+ Certification employed a strategy based on understanding the risks associated with GHG emission reporting and mitigation measures. The verification process involved gathering documentation, additional information, and justifications to provide reasonable assurance regarding the accuracy of reported GHG emission reductions.

The VVB team confirms that the GHG statement is the responsibility of the project proponent. The project activity fulfils the criteria for the validation and verification as established in section 4 of the VCS standard version 4.7/^{3/}. The VVB team has reviewed the project description documents, carried out onsite audits, and conducted follow-up interviews with the project proponent, confirming the fulfilment of stated criteria. The VVB team has an unmodified opinion regarding the project activity, confirming that all details are consistent and free of material errors or misstatements.

The joint PD & MR/^{1/} accurately states the GHG emissions reductions reported for the project activities from 01-May-2022 and 07-Mar-2024 (inclusive both days). The GHG emission reductions were computed accurately based on the approved baseline & monitoring methodology and the VCS standard/^{3/}.

The GHG statement's validation and verification, including any qualifications or modifications, were conducted in accordance with ISO 14064-3:2019 by an International Accreditation Forum accredited validation/verification body. Any adverse, disclaimed, modified, or qualified opinions

are accompanied by a description of the reason(s) for the opinion, positioned before the validation/verification body's conclusion.

The VVB team has raised 4 Clarification (CL), 8 CAR (Corrective action request), and no FAR (forward action request). All the deviations identified as CARs and/or CLs have been successfully closed and mentioned in Appendix 3 of this Joint Renewal of Crediting Period Validation and Verification report. The VVB team clearly state that there is no material misstatement at the level of the GHG statement and GHG declarations made by the Project Proponent.

5.2 Validation Conclusion

Our Validation approach was based on the requirements as defined under the applicable regulatory requirements. The validation has been conducted in accordance with the VCS Standard version 4.7^{3/} other valid and applicable VCS Regulatory Documents and templates (see Appendix 2 of this Validation Report below), UNFCCC rules and requirements (where applicable) and associated decisions of the VCS Secretariat and the UNFCCC Executive Board (where applicable). Our approach is risk-based, drawing on an understanding of the risks associated with estimated GHG emissions data and the controls in place to mitigate these. The validation can confirm that:

- VVB team verified that, the data & the information provided in GHG statement assertion is projected. All the assumptions are based on the available supporting document & third-party reports and/or those mentioned in appendix 2. The estimates are based on assumptions that are subject to change. Thus, VVB concludes that the project is likely to achieve estimated emission reductions as declared by the Project Proponent.
- The project's baseline and additionality are assessed against "ACM0002, Version 22.0: Grid-connected electricity generation from renewable sources, and TOOL: 07 Tool to calculate the emission factor for an electricity system.- version 07.0., TOOL 01: Tool for the demonstration and assessment of additionality.-version 7.0, TOOL 11 Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period.-version 03.0.1, TOOL 24 Common Practice.-version 03.1.
- The project's monitoring plan is assessed against ACM0002, Version 22.0: Grid-connected electricity generation from renewable sources.
- A risk-based approach has been followed to perform this validation activity. The review of the project description and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews with Project Proponent have provided LGAI Technological Center S.A. (Applus+ Certification) with sufficient evidence for positive validation opinion as per the requirement of VCS.

- Based on the assessment of the data, assumptions, limitations, and methods, a conclusion can be drawn regarding the likelihood of the proposed hydro power project achieving the estimated GHG emission reductions.
- Thus, VVB concludes that the project is likely to achieve estimated emission reductions as described below:

Crediting Period: From 08-March-2024 to 07-March- 2034 (inclusive both days)

Validated estimated GHG emission reductions and carbon dioxide removals for the project crediting period:

Vintage period	Estimated baseline emissions (tCO ₂ e)	Estimated project emissions (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated reduction VCU's (tCO ₂ e)	Estimated removal VCU's (tCO ₂ e)	Estimated total VCU's (tCO ₂ e)
08-Mar-2024 to 31-Mar-2024	157,143	0	0	157,143	0	157,143
01-Jan-2025 to 31-Dec-2025	191,830	0	0	191,830	0	191,830
01-Jan-2026 to 31-Dec-2026	191,830	0	0	191,830	0	191,830
01-Jan-2027 to 31-Dec-2027	191,830	0	0	191,830	0	191,830
01-Jan-2028 to 31-Dec-2028	191,830	0	0	191,830	0	191,830
01-Jan-2029 to 31-Dec-2029	191,830	0	0	191,830	0	191,830
01-Jan-2030 to 31-Dec-2030	191,830	0	0	191,830	0	191,830

Vintage period	Estimated baseline emissions (tCO ₂ e)	Estimated project emissions (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated reduction VCUs (tCO ₂ e)	Estimated removal VCUs (tCO ₂ e)	Estimated total VCUs (tCO ₂ e)
01-Jan-2031 to 31-Dec-2031	191,830	0	0	191,830	0	191,830
01-Jan-2032 to 31-Dec-2032	191,830	0	0	191,830	0	191,830
01-Jan-2033 to 31-Dec-2033	191,830	0	0	191,830	0	191,830
01-Jan-2034 to 07-Mar-2034	34,687	0	0	34,687	0	34,687
Total	1,918,300	0	0	1,918,300	0	1,918,300

5.3 Verification conclusion

LGAI Technological Center, S.A. (Applus+ Certification) is satisfied that a reasonable level of assurance was achieved during the verification on the quantity of GHG emission reductions and carbon dioxide removals in tCO₂ equivalents achieved by the project during the verification period as provided in the project's GHG statement.

The management of the project proponent /owner is responsible for the preparation of the GHG emissions data and the reported/estimated GHG emissions reductions on the basis set out within the project's Monitoring Plan in the registered VCS joint PD&MR^{1/} and the approved methodology, ACM0002, version 12.3^{5/}.

Our Verification approach was based on the requirements as defined under the VCS Validation & Verification manual and VCS Standard version 4.7^{3/}. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification team can confirm that:

- the project is operated as planned and described in the registered VCS joint PD&MR^{1/};

- the monitoring plan is as per the applied methodology, ACM0002, VERSION 22.0^{5/}
- the development and maintenance of records and reporting procedures are in accordance with the monitoring plan^{1/}.
- The installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately.
- The monitoring system is in place and generates GHG emission reductions data.
- The GHG emission reductions are calculated without material misstatements.
- A Reasonable Level of assurance was achieved as planned, during verification process.

Verification Period: From 01-May-2022 and 07-Mar-2024 (including both days)

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

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCU (tCO ₂ e)	Removal VCU (tCO ₂ e)	Total VCU (tCO ₂ e)
2022 (01/05/2022 - 31/12/2022)	102,735	0	0	102,735	0	102,735
2023 (01/01/2023 - 31/12/2023)	162,545	0	0	162,545	0	162,548
2024 (01/01/2024 - 07/03/2024)	34,247	0	0	34,247	0	34,247
Total	300,527	0	0	300,527	0	300,527

5.4 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
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2022 (01/05/2022 - 31/12/2022)	149,607	102,735	-31%	The VVB team has noted a Decreased in actual Emission Reductions (ER), Since Project is on running river and does not have is not under the control of Project Proponent. Which effects generation of electricity form hydro power. These factors have led to a difference between actual and estimated ER values. The VVB accepts this as a valid explanation for the observed discrepancies.
2023 (01/01/2023 - 31/12/2023)	222,884	162,545	-27%	
2024 (01/01/2024 - 07/03/2024)	40,913	35,247	-14%	
Total	413,404	300,527	-27%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

Section	Information	Justification	Assessment method and conclusion
N/A	N/A	N/A	Not applicable as there is no commercial sensitive information available

APPENDIX 2: DOCUMENT REFERENCES

Sr. No.	Author	Title	Reference	Provider
1.	PP	Joint PD&MR (initial) Joint PD&MR (Final)	Version 01, Dated 04-June-2024 Version 04.0, Dated 28-March-2025	PP
2.	PP	Estimated & Actual Emission Reduction spreadsheet (initial) Estimated & Actual Emission Reduction spreadsheet (Final)	Version 01, Dated 04-June-2024 Version 03.0, Dated 21-November-2024	PP
3.	VERRA	VCS Requirements: a) Verified Carbon Standard Program Guide, version 4.4 b) VCS Standard, version 4.7 c) VCS Program Definitions, version 4.4 d) VCS Registration and Issuance Process, version 4.4 e) VCS Joint Project Description & Monitoring Report Template, version 4.3 f) VCS Joint Validation & Verification Report Template Manual, version 3.2	-	Publicly Available
4.	UNFCCC	a) Tool 01: Tool for the demonstration and assessment of additionality b) Tool 07: Tool to calculate the emission factor for an electricity system c) Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period	Version 07.0 Version 07.0 Version 03.0.1 Version 03.1	Publicly Available

Sr. No.	Author	Title	Reference	Provider
		d) Tool 24: Common practice Analysis		
5.	UNFCCC	ACM0002 - “Grid connected renewable electricity generation”	version 22.0	Publicly Available
6.	Turkey Energy Market Regulatory Agency	Commissioning Certificate	Dated – 08/03/2014	PP
7.	Generation license	EU-1539-3/1121	Dated – 20/03/2008	PP
8.	EPIAS	Energy Generation Reports covering the entire monitoring period	Year 2022-2024	PP
9.	PP	Local Stake Holder documents: a) Invitation letter (English) b) Attendance sheet. c) Feedback forms. d) MoM. e) Photographs.	-	PP
10.	PP	Grievance Records	-	PP
11.	PP	O&M Contract/Service Orders	-	PP
12.	PP	Initial Purchase order	-	PP
13.	PP	SLD & Array Layout	-	PP
14.	PP	Technical Specification Data sheets	-	PP
15.	PP	Electricity Bills	Year 2022-2024	PP
16.	PP	CPA sheet	-	PP
17.	PP	Detailed Project report (DPR)	-	PP

Sr. No.	Author	Title	Reference	Provider
18.	TEIAS, Turkish Electricity Transmission Inc.	Meter Test Reports	Dated 31/05/2024	PP
19.	PP	Turkish National electricity grid emission factor information form	Dated 12/03/2024	PP
20.	PP	Employment Records	-	PP
21.	PP	Training Records	-	PP
22.	PP	IRR Sheet	-	PP
23.	Türkiye's National Electric Grid Emission Factor	Türkiye's National Electric Grid Emission Factor	-	
24.	PP	IRR sheet	-	PP

APPENDIX 3: ABBREVIATIONS

Abbreviations	Full texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM VVS	Clean Development Mechanism Validation and Verification Standard
ER	Emission Reductions
CL	Clarification Request
DCNEL	Dalmia Cement (North East) Limited
DNA	Designated National Authority
FAR	Forward Action Request

GHG	Greenhouse Gas(es)
IPCC	Intergovernmental Panel on Climate Change
Joint PD & MR	Joint project description and monitoring report
MP	Monitoring Plan
MR	Monitoring Report
PD	Project Description
PP	Project Proponent
PS	Project Standard
TSA	Transmission Service Agreement
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

APPENDIX 4: FINDINGS OVERVIEW

Table 1.CL from this validation / verification

CL ID	01	Section no.		Date: 12-July-2024
Description of CL				
PP requested to submit the respective documents of the Hydro power project activity relevant to the current monitoring period. - Actual and Estimated ER sheet - Plant breakdown sheet - Employment records - Supporting documents related to opted SDGs - Grievance logbook for current monitoring period				
Project participant response				Date: 05-August-2024
The respective documents have been submitted. There is no Plant breakdown sheet because there was no breakdown.				
Documentation provided by project participant				
Aslancık HEPP_ER 5-EPIAS OSOS.xlsx 6-Trainings 8-SGK Hizmet Dokum Aslancık HEPP – logbook (old).pdf				
DOE assessment				Date: 27-August-2024
1. Verifier found that all the supporting document required were submitted by the PP. However, few months employment records are missing in accordance to monitoring period. Also, since PP has claimed to have no plant breakdown therefore plant breakdown details have not been provided. Hence, CL is open.				
Project participant response				Date: 27-September-2024
The missing employment records have been shared.				
Documentation provided by project participant				
2022_05 İşletme_1 2022_05 İşletme_2 2022_06 İşletme_1 2022_06 İşletme_2 2022_07 İşletme_1 2022_07 İşletme_2 2022_08 İşletme_1 2022_08 İşletme_2 2022_09 İşletme_1 2022_09 İşletme_2				

2022_10 isletme_1			
2022_10 isletme_2			
2022_11 isletme_1			
2022_11 isletme_2			
2022_12 isletme_1			
2022_12 isletme_2			
DOE Assessment			Date: 21-October-2024
Above mentioned employment records covering the entire monitoring period has now been submitted to VVB, which were checked and found consistent with the information as provided in the revised JPD-MR. therefore acceptable to VVB.			
CL closed.			

CL ID	02	Section no.	Date: 12-July-2024
Description of CL			
PP is requested to review and revise the SDGs indicator and targets under table 1 of the submitted monitoring report, moreover PP shall submit supporting documents for each SDGs mentioned under the table 1. Clarification sought.			
Project participant response			Date: 05-August-2024
The supporting documents have been shared.			
Documentation provided by project participant			
5-EPIAS			
OSOS.xlsx			
6-Trainings			
8-SGK Hizmet Dokum			
VCS-Joint-PD-MR-Aslancik_TC			
VCS-Joint-PD-MR-Aslancik_clean			
DOE assessment			Date: 27-August-2024
1. Verifier found that the section 1.18.2 of the PDD&MR is not in line with PDD&MR v4.4 template. PP to also revise the table no. as per template. PP to submit all the employment records for the current monitoring period. Hence, CL is open.			
Project participant response			Date: 27-September-2024
1. Section 1.18.2 has been revised accordingly to the PDD&MR v4.4. Table number cannot be revised due to having added tables for information in the previous sections. The table number automatically changes The missing employment records have been shared also.			
Documentation provided by project participant			
2022_05 isletme_1			
2022_05 isletme_2			
2022_06 isletme_1			
2022_06 isletme_2			
2022_07 isletme_1			
2022_07 isletme_2			

2022_08 İstetme_1 2022_08 İstetme_2 2022_09 İstetme_1 2022_09 İstetme_2 2022_10 İstetme_1 2022_10 İstetme_2 2022_11 İstetme_1 2022_11 İstetme_2 2022_12 İstetme_1 2022_12 İstetme_2 VCS-Joint-PD-MR-Aslancik_v2_TC VCS-Joint-PD-MR-Aslancik_v2_clean	
DOE assessment	Date: 18-October-2024
The SDG table under the section 1.18.2 of the revised JPD-MR has now been revised by the PP, providing information and made in line with the latest template guidelines. Also, SDG supporting documents such as employment records covering the monitoring period are now provided to the VVB, thus acceptable. CL closed.	

CL ID	03	Section no.		Date: 12-July-2024
Description of CAR				
Project Proponent is requested to submit an undertaking for no double accounting for current monitoring period and for project activity is participated in other GHG program other than VCS.				
Project participant response				Date: 05-August-2024
A non-issuance documentation is provided.				
Documentation provided by project participant				
Aslancik_NonIssuance.pdf				
DOE assessment				Date: 27-August-2024
Verifier found that an undertaking for no double counting as “non- issuance document, dated- 02/08/2024” has been submitted by the PP which is found to be complied for the current monitoring period of the project activity. Hence, CL is closed.				

CL ID	04	Section no.		Date: 27-August-2024
Description of CL				
1. PP to clarify the rationale behind the variation of net electricity supplied to grid between the one reported by EPIAŞ DATA (5,63,849.41 MW) and the one as per monthly meter reading (5,63,847.46 MW). PP to also clarify how the value reported by EPIAŞ DATA (5,63,849.41 MW) is considered for calculating ER emission superseding the conservative value. 2. PP to clarify which year data has been referred for estimation of emission reduction factor. PP to provide weblink for the same.				

3. PP to clarify how the technical lifetime of equipment exceeds the crediting period mentioned in the section 3.4 of the PDD&MR.	
Project participant response	Date: 27-September-2024
1. According to the registered PDD, main data is the EPIAŞ data. The cross-check data is written by the plant's employees so little clerical errors might occur. However, since the main data is the EPIAŞ data, and the difference between the two are very minor, EPIAŞ data is used. 2. Year 2021 which is the latest data available, has been used for the estimation of emission reduction factor. The link is "TUESEF Bilgi Formu.pdf (enerji.gov.tr)". The link may not be accessible from outside of Türkiye; hence the PDF version has been shared. 3. The technical lifetime has been changed in the PDD&MR in section 3.4 to 30 years, being congruous with the registered PDD. The total crediting period is also 30 years.	
Documentation provided by project participant	
TUESEF_Bilgi_Formu VCS-Joint-PD-MR-Aslancik_v2_TC VCS-Joint-PD-MR-Aslancik_v2_clean	
DOE assessment	Date: 20-October-2024
1. PP's response is accepted, and the generation values from the EPIAŞ data has been considered, hence sticking to accuracy, thus acceptable to VVB. 2. The respective emission factor document published by has been shared by PP, which is found acceptable in the ER Calculations therefore acceptable to VVB. 3. The typo error has been rectified; the technical lifetime of the project has been made in accordance with the project crediting period. Thus, acceptable to VVB.	
CL closed.	

Table 2. CAR from this verification

CAR ID	01	Section no.		Date: 12-July-2024
Description of CAR				
During review of monitoring report following inconsistencies observed: 1. PP shall update the content page specifically as per the monitoring report. 2. PP shall revise the date format throughout the monitoring report as per the VCS registry specifically, in DD-Month-YYYY format. 3. PP shall also mention appropriate tool number and their respective versions of the opted tools throughout the monitoring report and mentioned tools shall be consistent with the registered PDD. 4. PP shall crosscheck all the units mentioned under the monitoring report and shall be denoted in appropriate notation. 5. PP requested to delete the template filling instructions under section 1.18.2 for the monitoring report. 6. Project Proponent shall site the opted equations (clause/para/Eqn No.) throughout the monitoring report.				
Corrective action sought				
Project participant response				Date: 05-August-2024

<i>The content page has been revised.</i> <i>The date format has been corrected throughout the PDD.</i> <i>The relevant tools and versions have been mentioned throughout the PDD.</i> <i>All of the units have been crosschecked and revised where appropriate.</i> <i>The template filling instructions have been deleted.</i> <i>Opted equations have been sited.</i>	
Documentation provided by project participant	
VCS-Joint-PD-MR-Aslancik_TC VCS-Joint-PD-MR-Aslancik_clean.docx	
DOE assessment	Date: 27-August-2024
- Verifier found that the content page still has inconsistency as per the sections mentioned in the PDD&MR. Corrective action sought. - Verifier found that date format as per the VCS registry as DD-Month-YYYY format has not been followed throughout the PDD&MR. - Verifier found that the version of applied methodology is inconsistent throughout the PDD&MR, also the tool number has not been mentioned in section where ever referred. The tool number and referred version for “common practice analysis” is also not mentioned in the PDD&MR. - Verifier found that data unit for $EG_{facility, y}$ and one of the parameters in the section 5.1 ($EG_{baseline}=0$) are not in line with the applied methodology and tool. - Verifier found that the template filling instructions have been omitted from the section 1.18.2 of PDD&MR. - Verifier found that the cited reference for the paragraph, section and equations are not consistent with the applied methodology. Hence, CAR is open.	
Project participant response	Date: 27-September-2024
<i>The content page has been revised and corrected.</i> <i>The Date format has been fixed throughout the PDD & MR.</i> <i>The version number of the methodology is now consistent throughout the PDD&MR. Common practice analysis tool has been mentioned but merely because it was referred to in the registered PDD, not because it was used.</i> <i>Data unit and the parameters in section 5.1 have been fixed.</i> <i>Template filling instructions have been added.</i> <i>The cited references are now consistent.</i>	
Documentation provided by project participant	
VCS-Joint-PD-MR-Aslancik_v2_TC VCS-Joint-PD-MR-Aslancik_v2_clean	
DOE Assessment	Date: 21-October-2024

As checked in the revised JPD-MR version 04.4, it was found that:

1)

1. The cover content page on the revised JPD-MR version has been updated as per latest VCS JPD-MR template, thus acceptable to VVB.
2. DD-Month-YYYY format has now been followed in the revised JPD-MR version 4.4 and is now in line with the latest VCS JPD-MR template, thus acceptable to VVB.
3. All the applicable tools alongwith the appropriate methodology is now applied in line with the registered VCS PDD dated 02/06/2012 which is consistent thus acceptable to VVB.
4. All the relevant units in the revised JPD-MR are now made appropriate as ones in the applied methodology, hence acceptable to VVB.
5. *The 'template filling instructions' have been deleted under the section 1.18.2 of the revised JPD-MR version 04.4, hence acceptable to VVB.*
6. Opted equations as and when taken from the applied methodology as well as tools are now sited throughout the revised JPD-MR version 04.4.

CAR closed.

CAR ID	02	Section no.		Date: 12-July-2024
Description of CAR				
Project Proponent requested to furnish the actual and estimated emission reduction spreadsheet relevant to the current monitoring period for further validation and verification. Corrective action sought.				
Project participant response				Date: 05-August-2024
<i>The actual and estimated emission reduction spreadsheet has been shared.</i>				
Documentation provided by project participant				
Aslancık HEPP_ER				
DOE assessment				Date: 27-August-2024
Verifier found that PP has submitted the actual and estimated emission reduction spreadsheet for the current monitoring period, also the emission reduction mentioned in the PDD&MR are in line with the provided sheet.				
Hence, CAR is closed.				

CAR ID	03	Section no.		Date: 12-July-2024
Description of CAR				
During review, the VVB team observed that certain sections of the report do not align with the requirements of the VCS template version 4.4. filling instructions. Inconsistencies are commented in respective sections of the monitoring report as well. Corrective action sought.				
Project participant response				Date: 05-August-2024
<i>In section 1.3, the second table in the template was made for AFOLU project, hence that why it was not filled and was removed. Other than that, the date format is now aligned with the VCS format and other discrepancies have been corrected.</i>				
Documentation provided by project participant				

VCS-Joint-PD-MR-Aslancik_TC VCS-Joint-PD-MR-Aslancik_clean.docx			
DOE assessment			Date: 27-August-2024
1. According to VCS joint PDD&MR template v4.4's instruction for completing report "Where a section is not applicable, explain why the section is not applicable (i.e., do not delete the section from the final document and do not only write "not applicable"). PP to revise the PDD&MR and align all sections as per the template instruction. Hence, no section shall be omitted against the instruction. Hence, CAR is open.			
Project participant response			Date: 27-September-2024
The PDD&MR has been revised accordingly.			
Documentation provided by project participant			
VCS-Joint-PD-MR-Aslancik_v2_TC VCS-Joint-PD-MR-Aslancik_v2_clean			
DOE Assessment			Date: 21-October-2024
The PP has revised the JPD-MR version 04.0 as per the above stated instructions, and mentioned not applicable wherever required, therefore in line with the latest template instructions. Therefore, acceptable to VVB. CAR closed.			

CAR ID	04	Section no.	Date: 12-July-2024
Description of CAR			
In some of the sections of Monitoring Report, the cited Weblinks under the footnote of Data are not operational, PP requested to do the needful and replace with the functional links, corrective action sought.			
Project participant response			Date: 05-August-2024
The weblinks are corrected and they are all operational now.			
Documentation provided by project participant			
VCS-Joint-PD-MR-Aslancik_TC VCS-Joint-PD-MR-Aslancik_clean.docx			
DOE assessment			Date: 27-August-2024
1. Verifier found that still all the weblinks are not working. The weblink for emission factor is not accessible. Corrective action sought. Hence, CAR is open.			
Project participant response			Date: 27-September-2024
The weblink for emission factor may not be accessible due to trying to access it from outside Türkiye. The PDF version has been sent and the screenshot of it has been added to the ER.			
Documentation provided by project participant			
TUESEF_Bilgi_Formu Aslancik HEPP_ER_v2 VCS-Joint-PD-MR-Aslancik_v2_TC VCS-Joint-PD-MR-Aslancik_v2_clean			
DOE Assessment			Date: 21-October-2024

The respective emission factor document published by has been shared by PP, which is found acceptable in the ER Calculations therefore acceptable to VVB.

CAR closed.

CAR ID	05	Section no.		Date: 12-July-2024
Description of CAR				
In order to verify the calibration details mentioned in section 6.2 of MR, PP is requested to submit the copies of calibration certificates covering complete monitoring period to the assessment team. Corrective action sought.				
Project participant response				Date: 05-August-2024
<i>The calibration certificates and documents about the meters have been shared.</i>				
Documentation provided by project participant				
08.03.2014 TR-2 First Index Protocol 08.03.2014 TR-2 İLK ENDEKS TESPİT PROTOKOLÜ 23.10.2013 TR-1 First Index Protocol 23.10.2013 TR-1 İLK ENDEKS TESPİT PROTOKOLÜ 2014 YILI SAYAÇLAR TEST RAPORU 2015 YILI SAYAÇLAR TEST RAPORU 2017 YILI SAYAÇLAR TEST RAPORU 2020 Meter Test Protocol 2020 YILI SAYAÇLAR TEST RAPORU 20220323 First Index Protocol 20220323 Meter Change Protocol 20220323 Sayac değişim tutanak Meter Test Protocol 2024 Sayaç Değiştirme ve İlk Endeks Protokolü Sayaç Test Raporları ÜNİTE-1 ANA SAYAÇ ÜNİTE-1 KONTROL SAYACI ÜNİTE-2 ANA SAYAÇ ÜNİTE-2 KONTROL SAYACI WhatsApp Görsel 2024-06-12 saat 14.21.42_0b285a85 WhatsApp Görsel 2024-06-12 saat 14.21.42_513ae8ef WhatsApp Görsel 2024-06-12 saat 14.21.43_4b5fc43d WhatsApp Görsel 2024-06-12 saat 14.21.43_bbf68f86 WhatsApp Görsel 2024-06-12 saat 14.21.43_fb61af56				
DOE assessment				Date: 27-August-2024
1. Verifier found that calibration certificates and meters details related documents were provided by the PP and is consistent with the details mentioned in the PDD&MR. However, calibration date mentioned in the				

table in the section 6.2 of PDD&MR is inconsistent with calibration certificates. Hence, CAR is open.	
Project participant response	Date: 27-September-2024
<i>The calibration is done during installation, in the table it is not renamed as "Installation date". Also the was written wrong for the back- up meter "Main Meter 2" in the former meters table. The date has been revised now.</i>	
Documentation provided by project participant	
08.03.2014 TR-2 First Index Protocol VCS-Joint-PD-MR-Aslancik_v2_TC VCS-Joint-PD-MR-Aslancik_v2_clean	
DOE Assessment	Date: 21-October-2024
The table under the section 6.2 of the revised JPD-MR version 04.4 has been revised with correct headings, as per the provided information, thus consistent, this part is closed. CAR closed.	

CAR ID	06	Section no.		Date: 12-July-2024
Description of CAR				
Project Proponent requested to crosscheck the table 1.2 "Audit history" under the submitted monitoring report and revise the period mentioned for joint validation and verification for current project activity.				
Project participant response				Date: 05-August-2024
<i>The period is revised.</i>				
Documentation provided by project participant				
VCS-Joint-PD-MR-Aslancik_TC VCS-Joint-PD-MR-Aslancik_clean.docx				
DOE assessment				Date:
Verifier found that the audit history in the section 1.2 of the PDD&MR has been revised in accordance to the crediting period mentioned for this joint validation and verification of the project activity. 2) Hence, CAR is closed.				

CAR ID	07	Section no.		Date: 12-July-2024
Description of CAR				
Project Proponent requested to revise the mentioned geo-coordinates under section 1.13 of the submitted monitoring report, as stated coordinates found not relevant to the current project activity and even not mentioned in appropriate DMS format. Corrective action sought.				
Project participant response				Date: 05-August-2024
<i>The coordinates have been corrected and project coordinates have been shared.</i>				
Documentation provided by project participant				

12-Project Coordinates VCS-Joint-PD-MR-Aslancik_TC VCS-Joint-PD-MR-Aslancik_clean.docx	
DOE assessment	Date: 27-August-2024
Verifier found that the section 1.13 of PDD&MR has been revised by the PP and the correct geo-coordinates have been updated as per the provided supporting documents. Hence, CAR is closed.	

CAR ID	08	Section no.		Date: 12-July-2024
Description of CAR				
Project Proponent requested to justify the reason of no risk identified for the sections “Where no risk is identified, write “No risk identified” in the first column, and provide justification in the second column” as per the monitoring report template filling instructions. Corrective action sought.				
Project participant response				Date: 05-August-2024
The necessary information is provided.				
Documentation provided by project participant				
VCS-Joint-PD-MR-Aslancik_TC VCS-Joint-PD-MR-Aslancik_clean.docx				
DOE assessment				Date: 27-August-2024
1. Verifier found that sections related to risk identification and justification has been updated as per the instruction given in the PDD&MR v4.4 template. However, a “non – applicable” table has been omitted in the section 2.4.1 of the PDD&MR. PP to make required revision as per the instructions given in the PDD&MR v4.4 template. Hence, CAR is open.				
Project participant response				Date: 27-September-2024
The omitted section has been placed back.				
Documentation provided by project participant				
VCS-Joint-PD-MR-Aslancik_v2_TC VCS-Joint-PD-MR-Aslancik_v2_clean				
DOE Assessment				Date: 21-October-2024
The PP has revised the JPD-MR version 04.0 as per the above stated instructions, and mentioned the table back as required, therefore in line with the latest template instructions. Therefore, acceptable to VVB. CAR closed.				

APPENDIX 5: COMPETENCY STATEMENTS

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interviews	Verification findings
1.	Lead Auditor/Technical Expert	OR	Shrivastava	Mr. Ishan	TQC- Outsourced entity	Yes	Yes	Yes	Yes

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 DOE or outsourced entity)
1.	Technical reviewer (TR)	El	Xue	Mr. Denny	Applus+ Certification
2.	Approver	IR	Calle de Miguel	Agustin	Applus+ Certification

Short CVs of the Team:

Name	Short CV Background Information
Mr. Ishan Shrivastava	Mr. Ishan Shrivastava, has done bachelor of engineering in Mechanical Engineering from Rajiv Gandhi Proudyogiki Vishwavidyalaya, India. He has a year of working experience in India's one of the Maharatna Company i.e., GAIL (India) Limited in the area of Natural Gas, Energy & Environment. Currently. He is working in True Quality Certifications Pvt. Ltd. (An outsource entity for LGAI Technological Center, S.A. (Spain) "Applus+ Certification") since 2019 and has been involved as Auditor (Validator/Verifier) for Validation and Verifications of Project Activities (Renewable and non- renewable projects) under CDM/VCS/GS4GG/GCC programs. Mr. Ishan Shrivastava is based in Indore, India. Mr. Ishan Shrivastava participates as part of the Audit Team as Technical Expert for the assessment.
Mr. Denny Xue	Mr. Denny Xue (Master's Degree in Environmental Engineering, Bachelor's Degree in Thermal Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment, auditing and technical review. He has more than 6 years of work

experience in CDM/GS4GG/VCS project assessment and technical review with Applus+. Before he joined Applus+ LGAI, he has been working for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development.

Mr. Denny Xue is based in Shanghai, China.

Mr. Denny Xue participates as part of the Technical Review experts' panel.