



**Verified Carbon
Standard**

VERIFICATION REPORT

ASLANCIK HYDRO POWER PLANT PROJECT



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Summary:

- **A brief description of the verification and the project**

Verification: Carbon Check (India) Private Ltd. has been contracted by, “Aslancık Elektrik Üretim A.Ş.” to undertake second verification and certification for the greenhouse gas (GHG) emission reductions reported from ‘Aslancık Hydro Power Plant Project’ VCS ID 917, for the monitoring period 01-January-2020 to 30-April-2022, under the crediting period from 08/03/2014 to 07/03/2024 (both days included). The verification is based on the desk review of the Monitoring report /01/, VCS PD & the corresponding validation report, supporting emission reduction calculation spread sheets /02/ and other relevant supporting documents made available to the verification team by the project proponent accompanied by remote interviews. In line with the relevant requirements of VCS Standard Version 4.3.

Project: Aslancık Hydro Power Plant Project which is a runoff river dam based hydro power plant is constructed on current of Harşit Creek, which arises from Cimli, Karakaban and Kostan mountains in the surrounding of the town of Gümüşhane in the district and province of the same name. The watercourse passes the town of Torul in the district of the same name in Gümüşhane province, and then flows through Kürtün district in Turkey, with a total capacity of 120 MWm / 98 MWe. The hydro plant is converting the potential energy of the water into electricity by means of two turbines of 60 MWm / 49 MWe capacity with total installed capacity of 120 MWm / 98 MWe . The electricity generated is sold to the Turkish National Electricity Grid. The project activity is a non-grouped project which employs VCS methodology; ACM0002, Ver 12.3.

The project activity has been operational since commissioning (08/03/2014) and during the second monitoring period i.e., from 01-January-2020 to 30-April-2022, it has generated 618,874 MWh net electricity, thereby resulting in emission reduction of 329,859 tCO₂e. The monitoring period subject to this monitoring report is inclusive of first and last day of period.

- **The purpose and scope of verification**

Purpose: The purpose of the verification is to review the monitoring results and verify that monitoring methodology was implemented according to monitoring plan and monitoring data, used to confirm the reductions in anthropogenic emissions by sources is sufficient, definitive, and presented in a concise and transparent manner. In particular, monitoring plan, monitoring report and the project’s compliance with relevant VCS, UNFCCC and host party criteria are verified in order to confirm that the project has been implemented in accordance with previously registered design and conservative assumptions, as documented.

Scope: The scope of the verification is:

- To verify the project implementation and operation with respect to the registered VCS PD.
 - To verify the implemented monitoring plan with the registered VCS PD and applied baseline and monitoring methodology.
 - To verify that the actual monitoring systems and procedures follow the monitoring systems and procedures described in the monitoring plan.
 - To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
 - To verify that reported GHG emission data is sufficiently supported by evidence. The verification shall ensure that the reported emission reductions are complete and accurate to be certified.
- The method and criteria used for verification

(a) Desk review, involving:

(i) Review of the data and information presented to verify their completeness.

(ii) Review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures.

(iii) Evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

(b) Remote assessment involving:

(i) Assessment of the implementation and operation of the proposed VCS project activity as per the registered VCS PD.

(ii) Review of information flows for generating, aggregating, and reporting the monitoring parameters.

(iii) Interview with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the VCS PD.

(iv) A cross-check between information provided in the monitoring report and data from other sources such as inventories, purchase records, or similar data sources.

(v) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS PD and the selected methodology.

(vi) Review of calculations and assumptions made in determining the GHG data and emission reductions.

(vii) Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

- **The number of findings raised during verification**

A risk-based approach has been followed to perform this verification. During the course of verification, total of 07 findings were raised, which includes:

04 Corrective Action Request (CAR); 00 Clarification Requests (CLs); 0 Forward Action requests (FARs).

All the raised findings are resolved by the PP.

- **Any uncertainties associated with the verification**

The VCS MR /01/, emissions reduction calculations /02/ along with the supporting documents provided are considered to be in line with all the VCS requirements /B01/. The verification team has detected no further uncertainties or quality restriction.

- **Summary of the verification conclusion**

In CCIPL's opinion, the emission reductions reported for the "Aslancık Hydro Power Plant Project" in the monitoring report are checked. CCIPL is therefore able to certify that the emission reductions from the "Aslancık Hydro Power Plant Project" during the second monitoring period, from 01-January-2020 to 30-April-2022, is achieved emission reduction of 329,859tCO₂ equivalent.

CCIPL does not assume any responsibility towards the issuance and utilization of VCUs hereby verified and certified. Request for issuance of VCUs shall be made by the project proponent to an approved VCS Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration. The verification of reported emission reductions is based on the information made available to CCIPL and the engagement conditions detailed in this report. Hence, CCIPL cannot be held liable by any party for decisions made or not made based on this report.

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1 INTRODUCTION

1.1 Objective

Carbon Check (India) Private Ltd. has been contracted by, “ASLANCIK ELEKTRIK ÜRETİM A.Ş.” to undertake second verification and certification for the greenhouse gas (GHG) emission reductions reported for ‘Aslancık Hydro Power Plant Project’ VCS ID 917 for the monitoring period 01-January-2020 to 30-April-2022 (including both days), under the crediting period of 10 years 08/03/2014 to 07/03/2024 (including both days), as per monitoring report version 03 dated 06/12/2022 /01/, with regard to the relevant requirements of VCS Standard Version 4.3. The VCS projects must undergo an independent third-party verification and certification of emission reductions as the basis for issuance of Voluntary Emission Reductions (VERs). Through the verification activities, it is to be confirmed that:

- The project is implemented as described in the VCS Project Description document;
- The monitoring system is implemented and fully functional to generate emission reductions without any double counting, and
- The data reported are accurate, complete, consistent, transparent, and free of material error or omission by checking the monitoring records and the emissions reductions calculation.

The verification followed the requirements of the current version of the VCS Standard Version 4.3 and VCS program guide (version 4.2) /B01/ to ensure the quality and consistency of the verification work and the report.

1.2 Scope and Criteria

The verification of this project is based on the Monitoring Report /01/ of this monitoring period, registered VCS PD /B04/, the Emission reduction calculation spreadsheet /02/, supporting documents made available to the verifier and information collected through performing remote interviews. Furthermore, publicly available information was considered as far as available and required.

CCIPL has employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions.

The verification is carried out on basis of the following requirements, applicable for this project activity:

- VCS Standard (v4.3) /B01/
- VCS Program Guide (v4.2) /B01/
- VCS Methodology: ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” Version 12.3 .” /B02/.
- Other relevant rules, including the host country legislation

The scope of this verification, by independent checking of objective evidence, is as follows:

- To verify that the project is implemented as described in the registered VCS PD /B04/.
- To assess the project’s compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent, and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.
- The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

The method and criteria used for verification consisted of the following phases:

1. Completeness check and desk review;
2. Remote interviews with stakeholders;
3. Resolution of outstanding issues and issuance of final verification report and applicable VCS Validation and Verification Deeds of Representation.

CCIPL conducts all its work under strict rules to safeguard impartiality and ensure the independence of the verification team. The verification team does not provide any consulting or recommendations for the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

1.3 Level of Assurance

The verification report is based on the Monitoring report /01/, registered VCS PD /B04/, supporting documents made available to the CCIPL, and information collected through performing interviews.

The verification has been planned and organised to achieve a:

- ☒ Reasonable level of assurance as per VCS Standard (v4.3)
- ☐ Limited level of assurance

1.4 Summary Description of the Project

Project activity is the operation of 120 MWm / 98 MWe dam based hydro power plant (HPP) using the renewable energy source of the current of Harşit Creek, which arises from Cimli, Karakaban and Kostan mountains in the surrounding of the town of Gümüşhane in the district and province of the same name. The watercourse passes the town of Torul in the district of the same name in Gümüşhane province, and then flows through Kürtün district in Turkey. The installed capacity of each two francis vertical shaft turbine of 60 MWm / 49 MWe capacity totaling the installed capacity of 120 MWm / 98 MWe project. The same technical information is confirmed by verification team during remote video site visit with pp. The project activity involves electricity generation using potential energy of the water and supply generated electricity to the Turkish National Electricity Grid. The project displaces the electricity produced by fossil fuel-based power plants, by using clean renewable source to generate electricity and thereby contributes to sustainable development through reduction in greenhouse gas (GHG) emissions.

During off-site visit interview it could be confirmed that the project has not been implemented in accordance with the description provided in the PD and MR. The project started its operation with an installed capacity of 93 MWe on 08th of March 2014. However, on 18th of December 2017, its capacity was increased from 93 MWe to 98 MWe. Provisional Acceptance Certificate for the new installed capacity was approved on same day /08/. The same had been verified during last verification of project. The Manager of the HPP also showed the units of the field and HPP via Video calling during remote site visit.

During remote interviews it has been confirmed by the operation manager (Mr. Ceyhun) of the Hydro Power Plant (HPP), that the electricity produced by Aslancık HEPP is connecting to the

Turkish National Power Grid via one of Transformer Substations via 12 km long 154 kV transmission line. The potential energy of a unit charge at the collection line towards the switch gear area is 13.8 kV, and from there to substation alternatives it is 154 kV. The project Activity is connected to the National Grid which is operated by TEİAŞ . The Substation belongs to HPP and is located inside HPP Field. The meters of the power plant are located in the Aslancık HPP powerhouse. The meters are read by TEİAŞ with the remote reading system OSOS and reported to the EPIAŞ institution. The SCADA system of Power Plant is controlled from the Monitoring Room.

The project proponent for the project activity is Aslancık Elektrik Üretim A.Ş. , owns the rights to VERs. The project activity start date is 08/03/2014 . The same was confirmed through Commissioning document (Provisional Acceptance Letter/Commissioning Certificate) /08/.

The second monitoring period (01-January-2020 to 30-April-2022) considered for verification falls under the first crediting period of the project activity (08/03/2014 to 07/03/2024).

During the remote audit inspection, location (as mentioned in Table, section 1.7 of MR) and all the technical aspects of the project activity (equipment, serial no., type, date of calibration etc.) mentioned in the PD have been verified. The same was also crosschecked during the desk review of technical specifications, Single line diagram and meter location, Provisional acceptance letter, review of data during remote audit and calibration certificates for meters.

It was also confirmed (through remote interviews) that the project activity has been operational since commissioning (08/03/2014) and during the second monitoring period i.e., from 01-January-2020 to 30-April-2022, it has generated 618,874 MWh net electricity, thereby resulting in emission reduction of 329,859 tCO₂e.

The project activity has been implemented as described in the registered VCS PD/B04/ in particular sections 1.1, 1.8, 1.13, 2.2, 4.1, 4.2 and 4.3 of the VCS PD.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The method and criteria used for verification:

The verification consists of the following three phases:

1. Completeness check and desk review of the validation report, monitoring plan, monitoring report, monitoring methodology, VCS PD /B04/, applicable tools in particular attention to the frequency of measurements, quality of metering equipment including calibration requirements, QA/QC procedures and other relevant documents;

2. Remote interviews (including follow-up interviews with project stakeholders, when deemed necessary).

The remote interviews include the following:

- An assignment of implementation and operation of project activity with respect to validated VCS PD /B04/
- Review of information flows for generating, aggregating, and reporting the monitoring parameters;
- Remote Interview with relevant personals to determine whether the operational and data collection procedures are implemented and in accordance with the monitoring plan of the validated VCS PD,
- Cross check of information and data provided in the monitoring report with purchase records or similar data sources;
- Review of calculation of the emission reductions;
- Implementation of QA/QC procedure in-line with the VCS PD and methodology requirements.

3. Resolution of outstanding issues and the issuance of the final Verification report and as applicable the VCS Verification Deed of Representation.

CCIPL follows a risk-based verification approach, wherein a desk review of the project documentation is undertaken, which is followed by a remote audit by the members of verification team. The verification protocol is filled by the verification team that is based on standard auditing practices and VCS requirements. The verification protocol provides transparent means to record the observations by the verification team members and the non- conformities,if any.The verification protocol is an internal document,and available on request.

2.2 Document Review

During the document review, CCIPL has applied standard auditing techniques to assess the quality of information provided. The verification was performed primarily based on the review of the monitoring report /01/ and the supporting documentation /02/ to /29/. This process included:

- A review of data and information presented by the PP to verify their completeness
- A review of the MP and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the QA/QC procedures, and
- An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of VERs.

The monitoring report (version 01 dated 01/06/2022) /01/ was initially reviewed and CCIPL requested the PP to present the supporting information and documents. The documents were reviewed by CCIPL. Through the process of the verification, the revised monitoring report /01/ and the supporting documents were evaluated to confirm the actions taken by the PP to the CARs and CLs issued by the verification team.

The list of documents referred during this verification has been provided in Appendix-1.

2.3 Interviews

The table below describes the remote interview process and further identifies personnel, including their roles, who were interviewed and/or provided information additional to that provided in the project description, Monitoring report /01/ and any supporting documents.

SN	Date	Name	Organisation	Topic	Persons Interviewed
/1/	10/06/2022	Ceyhun Yanik	ASLANCIK ELEKTRIK ÜRETİM A.Ş. – Chief Project Manager	• Project Design • Project Implementation status • Project start date and Project Location • Baseline Scenario	Dinesh Mane & Muhammet Ali Erduran

				• Baseline Identification and Additionality • Compliance with relevant laws • Roles and responsibility • Qualification and Training • Monitoring and reporting documentation • Quality Assurance – Management and operating system • Social and Environmental Impacts • Local Stakeholders meeting process • Compliance with relevant laws	
/2/	10/06/2022	Recep Tomak	Head of Village (Aslancik Village)	• Social and Environmental Impacts • Local Stakeholders meeting process • Continuous Grievance mechanism	Dinesh Mane & Muhammet Ali Erduran

/3/	10/06/2022	Hazal Özcan	Project Carbon Consultant - Life İklim ve Enerji Ltd. Şti.	• Emission reduction calculations • Monitoring report	Dinesh Mane & Muhammet Ali Erduran
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2.4 Site Inspections

As a result of the COVID-19 pandemic, taking into account the rules of relevant national and local authorities (local to the VVB offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB, email clarification for Verra guidance on site visits, notification of Covid-19 Travel Guidance for Projects <https://verra.org/covid-19-travel-guidance/> and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), the VVB has skipped the on-site visit. The on-site inspection can-not be postponed due to verification timeline agreed in between the Project Participant and the VVB as per the verification contract. /29/.

Therefore, where a VVB can achieve a reasonable level of assurance without conducting a site visit, or through a remote site visit, this is in conformance with the VCS rules, and no request for an exemption or pre-approval from Verra is required. However, where a validation/verification has been conducted without a site visit, or through a remote site visit, please ensure that the applicable section of the verification report includes a discussion of how a reasonable level of assurance was achieved without an in-person site visit”.

Accordingly, Carbon Check has not conducted an on-site inspection. A reasonable level of assurance has been maintained through the alternative means used for the purpose of verification as follows:

- 1) An assessment of the implementation and operation of the project activity as per the registered VCS PD /B04/
- 2) A review of information aggregating and reporting of the monitoring parameters
- 3) Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the MP (section 2.3 above)
- 4) A cross-check between product sales information provided in the MR /01/ and data from other sources (section 2.3 above).
- 5) A check of the monitoring equipment including calibration performance, and observations of monitoring practices against the requirements of the VCS PD and the applied monitoring methodologies /B02/
- 6) A review of calculations and assumptions made in determining the GHG data and ERs /02/, and
- 7) An identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters

The verification team carried out remote interviews with representatives of PP to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for the VCS.

Hence, the VVB has used other standard auditing techniques for validation or verification as referred to in VCS Rules/requirements, VCS Validation and Verification Manual version 3.2.

- Verification team has performed google meet interview with PP to check implementation, project boundary, current situation, monitoring and metering equipment, monitoring procedures, calibration etc.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in MR /01/ and supporting documents.
- A check of the monitoring equipment including performance and observations of monitoring practices against the requirements of the registered VCS PD /B04/ and the selected methodology /B02/.

2.5 Resolution of Findings

CC IPL, during this verification, identified issues related to the monitoring, implementation or operation of the VCS project that could impair the capacity of the proposed VCS project to achieve project emission reductions or influence the reporting of emission reductions. CC IPL has identified, discussed these issues within the Verification report in Appendix 4.

- Clarification requests (CLs): Project reporting lacks transparency and further information is needed to determine if a material discrepancy is present.
- Corrective action requests (CARs): The VVB has identified a material discrepancy or non-conformance that the project proponent must address.

The verification team identified 05 CAR. All CAR raised by Carbon Check during this verification are resolved by the PP.

2.5.1 Forward Action Requests

Forward Action Request (FAR) is to be raised when the monitoring and reporting require attention and/or adjustment for the next verification period. FARs does not relate to VCS requirements for issuance of ERs achieved during subject monitoring.

No FAR is raised during this verification.

2.6 Eligibility for Validation Activities

CC IPL is conducting the second verification activity, the validation was performed by another VVB. CC IPL has a valid UNFCCC accreditation in the sectoral scope from UNFCCC.

The project activity falls under sectoral scope O1 and the CCIPL is accredited for validation /verification of project activities under this scope.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

Project does not participate in any emission trading program or any other GHG program and has not sought or received any other form of environmental credit. The project has applied only under VCS for registration. This project is not participating under any other GHG programs.

3.2 Methodology Deviations

CC IPL verified all possible methodology deviations which do not negatively affect the conservativeness of the quantification of GHG emissions reductions or removals, except where the deviations result in greater accuracy.

CC IPL attempts to recognize whether any methodology deviation relates to the procedures relating to monitoring and measurement. Also, the interconnected nature of methodology, CC IPL also checked that such deviations will not have implications on other provisions of the methodology (e.g., equations for quantification) and must assess this possibility when evaluating a proposed deviation.

The verification team confirms that the registered project, under the current monitoring period (i.e., second monitoring period from 01-January-2020 to 30-April-2022), complies with the requirements of the applied monitoring methodology ACM0002, Ver 12.3 /B02/. Therefore, no methodology deviations are applied during the monitoring period.

3.3 Project Description Deviations

CC IPL verified all possible project description deviations which do not negatively affect the conservativeness of the quantification of GHG emissions reductions or removals, except where the deviations result in greater accuracy and clarity.

CC IPL attempts to recognize whether any such deviation relates to the procedures relating to monitoring and measurement. Also, the interconnected nature of with actual measurement, CC IPL also checked that such deviations will not have implications on other provisions of the methodology (e.g., equations for quantification) and must assess this possibility when evaluating a proposed

deviation.

The following project description deviations have been realized during the monitoring period.

The project's installed electrical capacity had been increased to 120 MWm / 98 MWe from 120 MWm / 93 MWe on 18/12/2017 as confirmed through the provisional acceptance protocol dated as 18/12/2017 and generation license of the project activity.

The project start date of the project activity has been revised as 08/03/2014 as the commissioning date of the project activity comparing with the registered PD.

The other entity involved in the project as the carbon consultant has been Life İklim ve Enerji Ltd. Sti. comparing with the registered PD in which that was envenco GmbH.

Also, during discussion with PP, it has been noticed that the test frequency of energy meter is 2 years as per TEIAS calibration frequency internal requirements. Accordingly, testing of energy meters is carrying out every 2 years, however calibration frequency of energy meters also changed to 10 years in comparison with registered PD frequency of 5 years as per revised regulations in 2016.

All above deviations are previously verified during first verification of project.

Two monitoring parameters, "A_{PJ}" and "Cap_{PJ}" being added in MR Section 4.2. These parameters were not included in the registered PD and the previous monitoring period. However, as per requirements of the applied methodology ACM0002 version 12.3, these parameters are added and will be monitored for the remaining crediting period.

The reservoir area mentioned in registered PD was retrieved from the feasibility report. However, during actual implementation of project activity the area of reservoir is constructed less than the provided in registered PD.(175,000 m²). The project's reservoir area is 160,000 m². The same is measured when the reservoir is full. CCIPL verification team has assessed the same by checking related document such as topographical survey/27/. Hence the same is accepted by verification team.

The above deviations are appropriately described and justified in monitoring report and verification team, confirms that the project remains in compliance with the VCS Standard v4.3 requirements.

The above deviations do not impact the appropriateness of the baseline scenario, additionality, or applicability of the methodology. Hence the above deviations are valid.

3.4 Grouped Project

Not applicable, as the project activity is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity is in operation stage as evidenced by the remote inspection (google meet video inspection) of the site. All the physical components and project boundary are in conformity with the description in registered VCS PD, and validation report /B04/. The capacity of project equipment's has been confirmed during the remote inspection (through review of installed capacity by SCADA System /23/), also through the technical specifications, electricity generation license /07/, commissioning certificate /08/ and found in-line with the registered VCS PD /B04/.

On the basis of the remote inspection and the review of technical specifications, Single line diagram and meter location /05/, Electricity production license /07/, Provisional acceptance letter, calibration certificates for meters project Commissioning certificate /08/, invoices /14/, organization structure and Electricity generation data /02/, the verification team confirms that the project is implemented and operated as described in the registered VCS PD /B04/. The project activity was commissioned on 08/03/2014 as verified from the commissioning certificate of the project activity /08/. As confirmed during the remote audit, the project activity was in continuous operation since commissioning. There is no such incident reported during the current monitoring period, which may impact the operation & capacity design of the project activity. Calibration records of monitoring equipment i.e., bi-directional meters (main and backup) were checked, and it was confirmed that the meters are factory calibrated at installation, and also will be calibrated periodically by the grid operator /09/ (refer above section 3.3 for details). The same is also confirmed by desk review of calibration reports carried out by TEIAS /09/. Same has been checked from the operational data during remote auditing and from the TEIAS and EPIAS websites (using the project owner's access).

Ownership and other programs:

PP has declared that the project is not registered in other GHG programs, PP confirmed that the project will only be going forward with VCS registry, as declared in VCS-PD. Thus, emission reductions generated by project will be solely claimed by PP and PP has the right of use, which is acceptable. Net GHG emission reductions or removals generated by this project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions as the host country i.e., Turkey is not an Annex-B country under Kyoto Protocol, neither has its set national emission reduction targets nor any related obligations.

PP will not claim the environmental/carbon credits under any other GHG emission reduction scheme for the crediting period under VCS and PP has declared the same during the validation. Hence, there is no possibility of double counting.

Project implemented activities that result in the SD contributions as described in the monitoring report:

As confirmed during the remote audit, the project displaces electricity produced in fossil fuel-based power plants, by using clean renewable source to generate electricity and thereby contributes to sustainable development through reduction in greenhouse gas (GHG) emissions. It has also been confirmed that the project contributes to the sustainable development goals (SDG 7, SDG 8, SDG 13,). Under SDG 7, the project supplies clean, affordable, and renewable energy (618,874 MWh net electricity under the monitoring period) without reliance on fossil fuels for generation of electricity to meet the growing demands in the region. The electricity generated during the operation of project activity results in emission reductions i.e., sustainable production and consumption of this electricity. For SDG 8, the implementation of project is providing job opportunities to 02 people during this monitoring period and 34 people will be maintained as their employees during this crediting period, with a decent and secure work environment by reducing emissions otherwise generated by the operation of fossil fuel-based power plants. The emission reductions generated due to the project activity are accounted under SDG 13 (emission reduction of 329,859 tCO₂e achieved under the monitoring period).

The project activity strengthens the implementation and revitalizes the global partnership through sustainable development by the means of significant environmental and socio-economic benefits. The same has been verified during remote site visit interviews with PP and local stakeholder.

Management and operational system:

Verification team was able to verify that authorities and responsibilities for monitoring and reporting of all data related to the emission reductions were clearly defined for the monitoring period from 01-January-2020 to 30-April-2022.

The allocation of the responsibilities is documented in a written form and is followed as described in the registered VCS PD /B04/. Routines for the archiving of data are defined and documented. The electricity generation records were verified during remote audit and from the EPIAS website (using the project owner's access). It was observed that the data is consistent with the provided in the final MR and ER sheets. The status of the project activity was verified through the video observation during the remote audit and through the video evidence submitted by the PP, the EPIAS website (using the project owner's access) /10/ checked by the verification team indicated the real-time

generation data, which further confirmed that the project is fully operational.

The monitoring plan described in section 4.3 of the MR confirmed to be correct. All the parameters of the monitoring plan are monitored using appropriate metering system, the details of which, as mentioned in the section 4.3 of the MR, have been confirmed through the snapshots /06/ and the technical document /03/ submitted by the PP. Certain deviation occurs in comparison with registered PD. The details of the same is provided in above section 3.3 of this report.

The verification team has remotely interviewed the plant personnel involved in the monitoring of the parameters that are used to determine the emission reductions of the project. It is confirmed based on the interviews and review of roles and responsibilities as per organizational structure, that the plant's team is competent enough to monitor the parameters as described in the monitoring plan.

As discussed above and review of MR /01/, the verification team concludes that management and operational system of the project is implemented and operated well. The organizational structure, responsibilities and competencies of the personnel that carried out the monitoring activities are found to be satisfactory to the verification team including the methods used for generating/measuring, recording, storing, aggregating, collating, and reporting the data on monitored parameters. The procedures used for handling including frequency of measurement and QA/QC procedures is also verified by verification team and found that the required confidence level or precision has been met. Thus, it ensures the quality of data which is required in calculating the emission reductions.

Implementation status of the monitoring plan:

Verification team confirms through remote inspection (refer to section 2.4 for details) and from the document review of technical specifications /03/, Single line diagram /05/ and meter location /03/, Electricity production license /07/, Provisional acceptance letter, calibration certificates /09/ for meters, project documentation, invoices /14/, organization structure and Electricity generation data /10/ that the actual monitoring system complies with the monitoring plan mentioned in the registered VCS PD. Certain deviation occurred in comparison with registered PD. The details of the same is provided in above section 3.3 of this report.

During the verification, all relevant monitoring parameters of the registered monitoring plan have been verified with regard to the appropriateness of the verification method; the correctness of the values applied for ER calculation, the accuracy and applied QA/QC measures. All monitoring parameters have been measured / determined without material misstatements and are in line with all applicable standards and relevant requirements. It is confirmed that the monitoring mechanism is effective and reliable.

Each month PP records data from main meter and calculate the monthly values of export and import as monitoring meters data for their record purpose and comparison /10/ i.e. monthly meter readings records in between PP and TEİAŞ covering monitoring period /11/. TEİAŞ published the data on their website and maintains in online registry. TEİAŞ records are used crosscheck the monitoring meters data of EPIAS website and also use to prepare sales receipt /14/. These EPIAS records /10/ covering monitoring period are the basis of calculation of emission reduction /02/.

There are 2 energy meters which for Aslancık HPP in the Sub- Station Center. One of this is main energy meter and other one is back-up (auxiliary/Control/Spare metering devices) energy meter. The Energy meters belongs to TEİAŞ. The energy meters of the power plants are located within the HPP Sub Station Center. Meter reading is done by TEİAŞ Remote reading system and giving information to the power plant management by the system of TEİAŞ. Back-up meters for the control of energy production values are also located in the Substation. The TEİAŞ provides remote access to the meters and monitors produced energy amounts every 15 minutes from the Main meters. The amount of energy produced is controlled by comparing the values in the Back-up energy meters .

The information of the energy meters is verified from the Chief Project Manager of HPP. The main energy meter and the back-up energy meter are installed and working according properly as per technical staff of the Aslancık HPP. The meters belong to TEİAŞ. It was confirmed that the calibration authority and responsibility for the meters goes to TEİAŞ. It was also asserted that meter maintenance and other responsibilities also belong to TEİAŞ. Therefore, it was acknowledged that the "First Index protocol" regarding the meters was made between TEİAŞ and PP.

In order to measure the electricity exported to the grid, the information of the installed meters was obtained from the power plant authority. During the monitoring period the meters were installed, in 2012 and replaced with new calibrated meters in 20/03/2022 i.e. after 10 years as per national regulatory requirements. The Initial Index Protocol includes installation information and Brand-Model information of the meters is verified during interview and document review related to meters . The calibration document of the energy meters was verified during this monitoring period. Thereafter, it was stated that calibration was carried out at determined periods according to the calibration frequency set by regulations . Calibration frequency as per PD was 5 years in PD, which is changed to 10 years as per deviation in section 3.3.above, after the installation of meters which will remain same.

CC IPL checked EPIAS recorded data /10/ in ER sheet /02/ with Metering records data i.e., monthly TEİAŞ readings record /11/ of back up and main meter also.

During interview with PP, it was confirmed that, the daily electricity generation logbook and common meter reading records are being followed between Energy Markets Management Inc. (EPIAŞ) and Aslancık HPP over the system. It was also evidenced as "hourly meter reading report

form - OSF". In addition to it, within the framework of the agreement between Aslancık HPP and TEİAŞ /04/, it was indicated that instantaneous production values were monitored by using the remote reading system OSOS belonging to TEİAŞ. Also, the technical staff of the HPP keep the note via Excel format Daily Electricity generation logbook /24/. The operator fills up the data hourly basis through SCADA system and adding in Excel - Daily Electricity generation logbook. It was confirmed that, the electricity generation records by the SCADA systems /23/ is being monitored by PP, the same is used for comparison purpose. PP monitors data from TEİAŞ OSOS Dashboard and EPIAŞ Dashboard regularly for record and crosscheck purpose before generating invoice for electricity sale to grid.

The Power Plant is operated as per the production plan given to Power Plant Control Operator one day before. He records the amount of energy produced every hour in the "Daily Production Sheet" by providing remote access to the Control meter by the Central Control Operator. At the same time, these values are processed into the relevant excel table in the computer environment. At the end of the month, it is compared with the production values in the main meter of TEİAŞ and back up meter. If there is an error or mistake, it will be reported to TEİAŞ. No such error recorded during the current monitoring period.

The main meter of the power plant is read by TEİAŞ, and their monthly production values are officially reported to EPIAŞ. With this notification, monthly production values are reconciled between EPIAŞ and the Power Plant.

The above-mentioned information flow for generating, aggregating, and reporting the electricity generation values were confirmed by the Chief Project Manager of HPP.

Electricity generation values in the SCADA system are controlled and recorded by the power plant authorities. In addition, the data that TEİAŞ receives via OSOS, which is the remote reading system, is reported to the EPIAŞ system and uploaded to the "Conciliation Page". In this way, official records are finalized. Also, this information is checked by SCADA Dashboards for information purpose.

The Technical Chief of the Aslancık HPP provided the information of the operational and data collection procedures. According to him, the accuracy of the set values is checked every hour by pressing the button on the main energy meter, which is located in the substation. These values are recorded in the "daily production sheet". At the end of the month, these data are verified by comparing the main meter values read by TEİAŞ.

According to PP, the quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring period. The technical staff of the Aslancık HPP Confirms that, the monthly meter values read by TEİAŞ with the remote reading system are notified to the plant operation manager via e-mail. The hourly values previously received

by the Control Operator of the Power Plant are compared with the counter values sent by TEİAŞ . The difference between the two values is checked for measurement accuracy. If there is any data error, TEİAŞ officers and HPP Officers meet together on the site, try to figure out the predicament. When they find the troubles, TEİAŞ officers and HPP Officers correct the errors. After the correction process, they send this information to the EPIAŞ to correct the data of the previous production values. According to the Power Plant Chief Manager, there has been no error process so far. If an error occurs, TEİAŞ notifies EPIAŞ of the erroneous data received from the Power Plant Directorate within a reasonable time and ensures that the values are corrected and verified.

Therefore, from the document review and remote inspection, it is confirmed that all the parameters were monitored in accordance with the registered monitoring plan during the monitoring period. Following are the details of monitoring in accordance with the monitoring plan of the registered VCS PD /B04/:

Data - Parameter	EG _{facility, y}
Data unit	MWh
Description	Quantity of net electricity generation supplied by Aslancık HPP to the grid in monitoring period years from 01-January-2020 to 30-April-2022
Source of data	The data from the Electricity Meters are the basis for the settlement notification of EPIAŞ. Data are gathered electronically from the meters by TEİAŞ and stored in secured website of EPIAŞ, which is accessible to PP. For monitoring, screenshots from EPIAŞ website are used as source of data for getting value of import and export of electricity during monitoring period /10/.
Description of measurement methods and procedures to be applied	The net electricity is measured continuously by main power meter at the grid interface and recorded monthly. The power meters are bi-directional and measures both the supplied and used electricity by the power plant. The EPIAŞ screenshots /10/ i.e., the value reported by the project owner to the website of “Market Financial Settlement Center” or EPIAŞ are cross checked with measured electricity generation records of sold electricity /11/ and. The power meters are calibrated and sealed by the transmission company, TEİAŞ . The Primary source of data is EPIAŞ web records /10/ . The same has been checked for each month by the Verification team during remote video

	inspection and complete checking of data has also been carried out of the same provided by the PP . Verification team confirms that the data has been measured directly from meters. The meter readings /11/ accessible via an Automatic Meter Reading Software, were cross checked remotely by the verification team during the video inspection. The net electricity exported to grid is calculated as difference between export and import values provided in EPIAS monthly web records /10/. Which conforms the PD monitoring requirement. As confirmed from the meter snapshots and its technical specifications , back up meter has been installed in case there is main meter failure. However, only the main meter readings are used for ER calculations /02/.																				
Frequency of monitoring-recording	Continuous monitoring and hourly reading. The monthly recorded for invoicing purposes. The EPIAS web site /10/ cross checked with records of TEİAŞ , recorded continuously, read remotely by TEİAŞ , and accessible monthly /11/ . Reported annually on the VCS Monitoring Report as verified by the verification team through remote assessment.																				
Value monitored	618,874 MWh																				
Monitoring equipment	During the remote inspection and through review of generation data from TEİAŞ – EPIAS web site /10/ and monthly TEİAŞ meter readings /11/, it has been confirmed that the data has been monitored continuously by bi-directional metering devices, which provides the data for the monthly invoicing to TEİAŞ. All meters were found to follow the communiqué for Metering Devices /17/ 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><th>Name</th><th>Brand & Model</th><th>Serial Number</th><th>Accuracy Class</th><th>Calibration Date</th></tr><tr><td>Main Meter 1</td><td>ELSTER A1500</td><td>464256</td><td>0.5S</td><td>23/10/2013</td></tr><tr><td>Back-up Meter 1</td><td>ELSTER A1500</td><td>464257</td><td>0.5S</td><td>23/10/2013</td></tr><tr><td>Main Meter 2</td><td>ELSTER A1500</td><td>471006</td><td>0.5S</td><td>08/04/2014</td></tr></table>	Name	Brand & Model	Serial Number	Accuracy Class	Calibration Date	Main Meter 1	ELSTER A1500	464256	0.5S	23/10/2013	Back-up Meter 1	ELSTER A1500	464257	0.5S	23/10/2013	Main Meter 2	ELSTER A1500	471006	0.5S	08/04/2014
Name	Brand & Model	Serial Number	Accuracy Class	Calibration Date																	
Main Meter 1	ELSTER A1500	464256	0.5S	23/10/2013																	
Back-up Meter 1	ELSTER A1500	464257	0.5S	23/10/2013																	
Main Meter 2	ELSTER A1500	471006	0.5S	08/04/2014																	

	Back-up Meter 2	ELSTER A1500	471007	0.5S	08/03/2014	
	The new meters placed by TEIAS on 22/03/2022. The details of those meters is provided below:					
	Name	Brand & Model	Serial Number	Accuracy Class	Calibration Date	
	Main Meter 1	EMH & LZQJ - XC	11172808	1S	22/03/2022	
	Back-up Meter 1	EMH & LZQJ - XC	11172809	1S		
	Main Meter 2	EMH & LZQJ - XC	11172810	1S		
	Back-up Meter 2	EMH & LZQJ - XC	11172811	1S		
	The meters are factory calibrated during installation and calibrated periodically by the grid operator /09/. The calibrations are valid for 10 years as per National standard requirements /15/. The meters were changed on 22/03/2022 as per TEIAS energy meters change policy of 10 years. However, TEIAS is testing the meters every 2 years as per their internal protocol. As the meters were changed on 22/03/2022 accordingly next test date of both meters will be carried out on 22/03/2024 and next calibration would be carry out on 22/03/2034 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. Power meters are in line with Measure and Metering Devices Regulation and with IEC-EN 60687 Standards with the accuracy class 1S. Serial numbers of metering devices, brand, accuracy class are provided in the monitoring plan below.					
	QA-QC procedure to be applied	There are two bi-directional meters, 1 main and 1 check meter, and the monthly reported meter reading by the main meter, is cross-checked against the Main back up meter by a technician as confirmed during remote inspection and through snapshot. Imported electricity was also monitored by the operator using software for internal monitoring, which was again				

	confirmed during the remote inspection. The main and spare/backup meter readings are recorded monthly readings in kWh and cross-checked whether calibration is required. The capacity of the transmission line connected is 154 kVA, The accuracy class for power meters have been defined in the Communiqué for Power Meters 58 as 1S class. The calibration is implemented in accordance with the related standard procedures (IEC-EN 60687).
Purpose of the data	Data to be used for the calculation of Baseline Emissions
Calculation method	Direct Continuous Measurement The net electricity export/supplied to a grid is the difference between the measured quantities of the grid electricity export and the import.
Comments	As confirmed during the remote inspection, the collected data will be kept by PP during the crediting period and until two years after the last issuance of VERs for the Hydro Power Plant project activity for that crediting period.

Data - Parameter	Cap _{PP}
Data unit	W
Description	Installed capacity of the hydro power plant after the implementation of the project activity
Source of data	EMRA website and the turbine name plates verified by verification team
Description of measurement methods and procedures to be applied	EMRA website checked during remote interview video
Frequency of monitoring-recording	Yearly
Value monitored	120 MWm/98 MWe
Monitoring equipment	The EMRA website contains all licensed electricity generation facilities, along with their current installed capacities. Further, the turbine plates installed at site are also proof of capacity.

QA-QC procedure to be applied	Turbine labels checked with SCADA System reading by verification team during remote interview video
Purpose of the data	Compliance with applied methodology, and power density calculations.
Calculation method	N/A
Comments	–

Data - Parameter	A_{PJ}
Data unit	m^2
Description	Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full.
Source of data	Project site
Description of measurement methods and procedures to be applied	Measured from topographical surveys and maps
Frequency of monitoring-recording	Yearly
Value monitored	160,000 m^2
Monitoring equipment	–
QA-QC procedure to be applied	Checked and compared to satellite imagery available by Google Earth /27/ by verification team
Purpose of the data	Data to be used for the calculation of project Emissions by calculating power density.
Calculation method	Measured from topographical surveys, maps, satellite pictures

Comments	-
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Remaining Issues from Validation and Previous Verification:

This is the second periodic verification of the registered project activity and from the review of the last verification report, verification team confirms that no FAR were raised during the last verification of the project activity

4.2 Safeguards

4.2.1. No Net Harm

The project activity is the generation of electricity from a clean renewable energy source i.e., run of river dam water and does not involve any negative environmental and socio-economic impact. Though, in accordance with “Environmental Law” No. 2872 (Issued in 1983) and Annex 2 of Environmental Impact Assessment (EIA) Regulation (issued in 1993 and revised in 2001) for the HPPs with an installed capacity of more than 50 MW are subject to a full EIA investigation or report preparation is required. The installed capacity of the project is 98 MWe, the project has got EIA exemption certificate dated 02/04/2008 /20/. However, project is found to be in compliance with the laws and regulations of Turkey.

Mr. Recep confirmed, about the positive benefits of the project. They mentioned the project creates job opportunities and builds for the people of the region in a good way. He expressed that Esatli village satisfaction for the project is located in this region. They mentioned that it provides positive contribution to the regional economy. Also, he mentioned that the people who lives in this region are delighted for this HPP which is located in their location.

As confirmed through the remote interviews, PP has adopted mitigation measures to minimise the impact of construction and operation as per the Project Presentation Report submitted to the authorities. Necessary precautions have been taken for the minimization of dust in accordance with Pollution Control regulations, collection of waste oil Hazardous Waste Control Regulations and Waste Oil Control Regulations, and disposal of waste-to-waste treatment facilities. During the remote investigation, PP confirmed that no such accident had occurred during the current monitoring period, which could be responsible for negative environmental and socio-economic impact.

4.2.2. Local Stakeholder Consultation

During this monitoring period PP has provided logbook within the vicinity of Aslancık village, to register grievances given by local stakeholders during operation phase of project activity, to note ongoing communication mechanism with stakeholders. The same process

is known by all local stakeholders , as it was communicated by PP to all local stakeholders. Each month PP representatives visit and meet the logbook locations to check and discuss any grievances given by local stakeholders. The same process is known to all local stakeholders. In addition to it, the local stakeholders can access the Aslancık Site manager and the Aslancık HPP via phone to provide their grievances related to operational activity of project. This is verified by verification team during remote onsite visit interviews with local stakeholder.

During the monitoring period there were no complaints or negative comments or demands from the project. The same was confirmed through the remote audit conducted by verification team.

4.3 AFOLU-Specific Safeguards

This is not an AFOLU project, as can be confirmed from the registered VCS PD.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The verification team has reviewed the emission reduction (ER) spread sheet and checked all the formulae and verified them to be correct and in line with the monitoring plan of the registered VCS PD and the applied monitoring methodology .

All the monitored parameters are described above in section 4.1. All the ex-ante parameters which are used in the calculation of emission reduction are presented in section 4.1 of the MR transparently. It is confirmed that all the ex-ante parameters have been correctly used in the emission reduction calculation.

Baseline emissions:

The baseline emissions (BE_y) are calculated based on the following formula:

$$BE_y = EG_y \times EF_y$$

Where:

BE_y = Baseline emissions in year y (tCO₂/yr)

EG_y = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (MWh/yr)

EF_y = Combined margin CO₂ emissions factor in year y (tCO₂/MWh)

The Combined margin CO₂ emissions factor in year y (tCO₂/MWh), $EF_{grid,CM,y}$, is fixed ex-ante for the duration of the crediting period and is 0.533 tCO₂e/MWh.

Therefore,

$$BE_y = EG_y \times EF_y$$

$$BE_y = 618,874 \times 0.533$$

$$BE_y = 329,859 \text{ tCO}_2 \text{ (rounded off)}$$

It is noted that the formula and calculation used for baseline emission calculation in the monitoring report and ER sheet follows the registered VCS PD. The default values and data used in the monitoring report is in-line with the registered PD. Hence, acceptable to the verification team.

Project Emissions:

The Project emissions (PE_y) are calculated based on the following formula:

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

Where:

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

PE_{FF, y} = Project emissions from fossil fuel consumption in year y (tCO₂e/yr)

PE_{GP,y} = Project emissions from the operation of geothermal power plants due to the release of non-condensable gases in year y (tCO₂e/yr)

PE_{HP,y} = Emissions from water reservoirs of hydro power plants.

This is hydro project. Hence it is applicable.

PE_{FF,y} = 0, which is acceptable to the verification team as per methodology.

PE_{GP,y} is not applicable to the project activity, as the registered project is a Hydro power plant

For hydro power project activities that result in new reservoirs and hydro power project activities that result in the increase of existing reservoirs, project proponents shall account for CH₄ and CO₂ emissions from the reservoir, estimated as follows:"

"...the power density of the project activity (PD) is greater than 4 W/m² and less than or equal to 10 W/m²:"

As shown by the following calculation, The project has a power density of 612.5 W/m², which is greater than 10 W/m²,

$$\text{Project Activity Installed Capacity/ Reservoir Area} = \text{Power Density Aslancık HEPP}$$

$$98,000,000\text{W}/160,000\text{ m}^2= 612.5\text{ W/m}^2$$

Hence, as per the calculation checked by the verification team, $PE_y = 0$

Leakage:

As per the methodology ACM0002, Ver 12.3 /B02/ and as defined in the registered VCS PD /B04/ no leakage is considered in the project activity and the same is followed in this monitoring period also. Thus, it follows the registered VCS PD.

Accordingly, emission reduction for the current monitoring period (01-January-2020 to 30-April-2022) is 329,859 tCO₂.

Total emission reductions were realized as 329,859 tCO₂ for this monitoring period (Table 5). When the estimated electricity generation figure of the power plant for total year as per validated VCS PD is considered, the total emission reductions should be approximately 519,656 tCO₂ (Table 2) for the monitoring period. Percent difference is calculated as -37%, which means the project reduced 37% less CO₂ than the estimated amount. Since the project is a HEPP, seasonal effects are significant on the monthly generation rates and deviations from the calculated values are acceptable. On the other hand, the electricity generation is dependent on water flow estimation, which is a natural phenomenon and cannot be estimated with 100% accuracy.

The following are the ex-ante parameters used in the ER calculation which follow registered VCS PD:

Parameter	Description	Justification
FC _{HV,i,y} Tcal	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 tCO₂e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO₂e/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} tCO ₂ /TJ	Carbon emission factors of fuels used for combustion for electricity production by fuel type (IPCC default	The value is used in the calculation of the Emission factor (0.533 tCO₂e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO₂e/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

	values at the lower limit of the uncertainty at a 95% confidence interval)	parameter is found appropriate.
EF _{CO2} tCO ₂ /TJ	Emission factor for each fuel type.	The value is used in the calculation of the Emission factor (0.533 tCO₂e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO₂e/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.
E _{ly} GWh	Gross electricity imports to the Turkish national grid 2008-2010.	The value is used in the calculation of the Emission factor (0.533 tCO₂e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO₂e/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} GWh	Gross electricity production in Turkey in 2008-2010.	The value is used in the calculation of the Emission factor (0.533 tCO₂e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO₂e/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} GWh	Net electricity production in Turkey in 2008-2010.	The value is used in the calculation of the Emission factor (0.533 tCO₂e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO₂e/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 MWh	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 tCO₂e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO₂e/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} GWh	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 tCO₂e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO₂e/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} GWh	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 tCO₂e/MWh). The emission factor has already been calculated ex-ante as 0.533 tCO₂e/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.

According to the applied methodology , the conservativeness of the achieved emission reduction was checked, and the detailed emission reduction calculation has been transparently provided in the ER sheet . All the formulae and the calculation procedure were checked by the verification team. In the opinion of verification team, the assumptions, emissionfactorsand default values that were applied in the calculations have been justified. Also, the verification team confirms that there were no manual transposition errors between the data sets in the ER Sheet during the current monitoring period. It is confirmed that the data has been based on the EPIAS web site /10/ .and it was cross checked from measured directly from meters /11/.

All relevant documents were checked to assess the correctness and quality of data submitted by the project participants, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan /B04/. No significant lack of evidence and missing data were detected during remote audit interview and video inspection. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures. The monitoring parameters have been measured / determined without material misstatements and is in line with all applicable standards and relevant requirements. The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included in section 4.1 under each parameter and confirms to the requirement of the PD /B04/. The export and import data are measured by the electricity meters, recorded continuously on the TEİAŞ and EPIAS web site and the invoices are generated monthly. The data is then reported annually on the VCS Monitoring Report /01/ as verified by the verification team through remote assessment.

It was also verified through remote audit interview of responsible personnel, that the plant's team involved in the monitoring of project activity is well experienced. Hence, the verification team concludes that competent staff, as mentioned in the organizational structure is employed by the project proponent to carry out the relevant tasks with sufficient accuracy. Furthermore, it was confirmed during remote audit discussion that internal training program for the monitoring staff are conducted on regular basis.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

When verifying the report emission reduction, CCIPL ensured that there was a clear audit trail that contained the evidence and records that validate the stated figures. All source documents that form the basis for assumptions and other information underlying the GHG data are shown above.

When assessing the audit trails, CCIPL also examined:

1. whether sufficient evidence was available, both in terms of frequency and in covering the full monitoring period
2. the source and nature of the evidence
3. if comparable information was available from sources other than that used in the monitoring report, CCIPL cross-checked the monitoring report against the other sources to confirm that the stated figures were correct. The sources and the data referenced are shown in Appendix 1 below.

CCIPL also assessed that the data collection system met the requirements of the monitoring plan as per the applied methodology.

Proper data management inclusive of data acquisition and aggregation, data management system is being followed for the project activity.

The monitoring personnel at site are well trained and follow reproducible routines. Thus, they are competent to carry out the relevant tasks with sufficient accuracy.

4.6 Non-Permanence Risk Analysis

The project activity was operational during the complete monitoring period. Hence there is no further requirement for the non-performance analysis rating during the monitoring period of the project activity.

5 VERIFICATION CONCLUSION

CCIPL has been contracted by, “ASLANCIK ELEKTRIK ÜRETİM A.Ş. ” to undertake second verification and certification for the greenhouse gas (GHG) emission reductions reported from ‘Aslancık Hydro Power Plant Project’ VCS ID 917 for the monitoring period 01-January-2020 to 30-April-2022, under the first crediting period 08/03/2014 to 07/03/2024, in the monitoring report version 03 and 06/12/2022, with regard to the relevant requirements of VCS Standard Version 4.3.

The verification is based on the validated and registered VCS PD /B04/ and the monitoring report /01/ for this project. Verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakech accord, as well as those defined by the CDM Executive Board and the VCS Standard Version 4.3.

The management of the ‘Life İklim ve Enerji Ltd. Şti.’ is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project final Monitoring Report Version 03 and 06/12/2022. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the ‘Life İklim ve Enerji Ltd. Şti.’ The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report 03 and 07/12/2022/01/.

It is CCIPL responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 01-January-2020 to 30-April-2022 based on the reported emission reductions in

the Final Monitoring Report Version 03 and 06/12/2022 for the same period. As a result of the verification, the verification team confirms that:

- All operations of the project are implemented and installed as planned and described in the project description.
 - The monitoring system is in place and functional.
 - The installed equipment essential for generating emission reductions runs reliably.
 - The GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.
- Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, CCIPL planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

Verification period: From 01-January-2020 to 30-April-2022

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2020 (01/01/2020 – 31/12/2020)	152,994	0	0	152,994
2021 (01/01/2021 – 31/12/2021)	106,807	0	0	106,807
2022 (01/01/2022 – 30/04/2022)	70,058	0	0	70,058
Total	329,859	0	0	329,859

The verification team is of the opinion that the project has been implemented in accordance with the registered project description and the MP which complies with the approved monitoring methodology, the monitoring complies with the MP and the monitored data and calculation of ERs are assessed and confirmed as correct. Therefore, CCIPL certifies, and requests the issuance of, the reported ERs during the monitoring period of 01-January-2020 to 30-April-2022 amounting to 329,859 tCO₂e to the VCS registry.

APPENDIX 1: REFERENCES

S. No.	Document
/01/	- Monitoring Report Ver 01 dated 01/06/2022 - Monitoring Report Ver 03 dated 06/12/2022
/02/	Emission reduction calculation spread sheet
/03/	Proof of Technical specifications of HEPP
/04/	Power purchase Agreement with TEIAS
/05/	Single line diagram for the flow of electricity from generation point to feed in grid including meter locations
/06/	Project site photographs of turbines, generators, regulators, powerhouse, electricity meters etc. as provided in registered PD
/07/	- Electricity production license with EPDK dated 20/03/2008 - Grid Connection Contract with TEIAS dated 01/07/2008 - Water usage agreement signed with DSI dated 17/01/2007 - System usage agreement with TEIAS dated 05/03/2021
/08/	Commissioning document of each Turbines dated 08/03/2014 & 19/09/2015 and revision on 18/12/2017
/09/	Meter calibration report for main meter and check/backup meter
/10/	Monitoring Period Electricity generation data from EPIAS web site
/11/	Monthly TEIAS meter readings records covering monitoring period
/12/	Proof of location of the turbines in KMZ file
/13/	Proof of Meters information (Manufacture, Calibration date, Validation, Accuracy class) including calibration certificates
/14/	Invoices raised by PP to TEIAS covering monitoring period
/15/	Communiqué for Metering Devices, (Regulations clarifies the use of electricity meters and their calibration published in 10/04/2011 under the number of 27901 and in 14/04/2009 under the number of 27200.)
/16/	Proof of installed capacity of the Project Activity i.e., showing in SCADA system and EMRA website
/17/	Valid Meters "Type and System Approval" certificate from the Ministry of Trade and Industry in compliance with TS-620 EN 60044-1 and TS718 IEC60044
/18/	The ICE/TSE 62053-22: Electricity metering equipment (a.c) – Particular requirements - Part 22: Static meters for active energy (Classes 0.2 S and 0.5 S)
/19/	LSC ongoing mechanism evidence
/20/	EIA approval letter dated 02/04/2008
/21/	Proof of occupational health trainings and technical trainings provided in current Monitoring period
/22/	Drained excess fuels and oils, sewage truck invoices in Current Monitoring period
/23/	Sample copies of monitored electricity production through a SCADA system and record daily generation in field logs
/24/	Hourly Electricity Export/Import records / Log sheets for the electricity export to grid and import from grid for the monitoring period
/25/	Solid waste disposal records covering monitoring period
/26/	Sewage truck disposal records covering monitoring period
/27/	Reservoir area measurement documents
/28/	Proof of Capacity of project activity through project site computers with SCADA system and the turbine name plates
/29/	Verification contract in between CCIPL and "Aslancık Elektrik Üretim A.Ş." dated 01/06/2022

Background documents

Ref	Document
/B01/	VCS Requirements a. VCS Standard (v4.3, dated 22/06/2022) b. VCS Program Guide (v4.2, dated 22/06/2022) c. VCS Validation and Verification Manual version (v3.2, dated 19/10/2016) d. Registration & Issuance Process (v4.2, dated 22/06/2022) e. VCS Program Definitions version (v4.2, dated 22/06/2022) f. VCS MR template version 4.1 CDM validation and verification standard for project activities Version 03
/B02/	Applied baseline and monitoring methodology: ACM0002. "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 12.3
/B03/	The Approved Methodology refers to the following tools: • "Tool for the demonstration and assessment of additionality"(Version 7) • "Tool to calculate the emission factor for an electricity system". (Version 4) • "Guidelines on the assessment of investment analysis" (Version 5) • "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" (Version 2)
/B04/	• Registered VCS PD version 2 dated 02/06/2012 • Registered Validation Report version 03 dated 10/06/2012 • First monitoring report Ver 04 dated 17/06/2021 • First Verification Report Ver 02 dated 18/06/2021
/B05/	Website and links: 1. http://cdm.unfccc.int 2. https://verra.org/project/vcs-program/rules-and-requirements/

APPENDIX 2: Abbreviations

CDM	Clean Development Mechanism
BE	Baseline Emission
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
TEIAS	Camlibel Elektrik Dagitim A.S.
CDM	Clean Development Mechanism
CL	Clarification Request
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
DPR	Detailed project report
DVR	Draft Validation Report
EB	CDM Executive Board
EF	Emission Factor
ER	Emission Reduction
FAR	Forward Action Request
FVR	Final validation Report
GHG	Greenhouse gas(es)
GWh	Giga Watt Hour
IPCC	Intergovernmental Panel on Climate Change
MW	Mega Watt
MWh	Mega Watt Hour
NA	Not Applicable
OSV	On Site Visit
PD	Project Description
PP	Project Proponent
QC/QA	Quality control/Quality assurance
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VC SA	Verified Carbon Standard Association
VCU	Verified Carbon Unit
VVB	Validation Verification Body
VVM	Validation and Verification Manual
VVS	Validation and Verification Standard

APPENDIX 3: CERTIFICATES OF COMPETENCE



Carbon
CHECK

Carbon Check (India) Private Ltd.

Mr. Dinesh M Mane

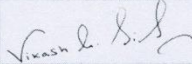
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

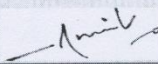
Validator	☒	Team Leader	☒	Technical reviewer	☐
Verifier	☒	Technical Expert	☒	Local Assessor ¹	☒

In the following Technical Areas:

TA 1.1	☐	TA 4.1	☐	TA 9.1	☐	TA 13.1	☐
TA 1.2	☒	TA 5.1	☐	TA 9.2	☐	TA 13.2	☐
TA 3.1	☐	TA 5.2	☐	TA 10.1	☐	TA 14.1	☐



Mr. Vikash Kumar Singh
Compliance Officer



Mr. Amit Anand
CEO

Date of Approval
24/12/2021

Valid Till
23/12/2022

Revision History of the Document

01/03/2020 ²	Interim Revision for office address change
01/09/2020	Interim Revision for CCIPL logo change
24/12/2020	Annual Revision
24/12/2021	Annual Revision

¹ India

² Please refer to previous version of competency certificates for the revision history.

CARBON CHECK (INDIA) PRIVATE LIMITED
CIN: U74930DL2012PTC232495
Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005
Corporate off: Unit No. 1701, Logix City Centre Office Tower, Plot No. BW-58, Sector-32 Noida, Uttar Pradesh
Tel: +91 120 4373114 | URL: www.carboncheck.co.in | e-mail: info@carboncheck.co.in



Carbon Check (India) Private Ltd.

SHIVAJI CHAKRABORTY

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	☐	Team Leader	☒	Technical reviewer	☒
Verifier	☐	Technical Expert	☒	Local Assessor ¹	☒

In the following Technical Areas:

TA 1.1	☒	TA 4.1	☐	TA 9.1	☐	TA 13.1	☐
TA 1.2	☒	TA 5.1	☐	TA 9.2	☐	TA 13.2	☐
TA 3.1	☒	TA 5.2	☐	TA 10.1	☐	TA 14.1	☐



Mr. Vikash Kumar Singh
Compliance Officer



Mr. Amit Anand
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APPENDIX 4: FINDINGS LOG

Table 1.CARs from this verification

Finding	CAR 01		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	CAR being raised for the following corrections related to MR template Ver 4 /B01-f/ and other VCS rules: 1) Provide continued operation periods statement in section 1.1 of MR. 2) “Contributions Over Project Lifetime” needs to be provided properly for 8.5, 7.2 & 13.2 SDG targets in table 3 of section 1.11 of MR. 3) PI keep date format as DD-Month-YYYY as per MR filling guidelines.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	- Details have been provided. - Lifetime contribution section has been updated. - Date format have been revised.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The corrections made in revised MR is found to be satisfactory hence this CAR is closed.		
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed		

Finding	CAR 02		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	CAR being raised for the following editorial corrections in the MR: 1) Table 1 in section 1.1 of MR needs to modify, to include date of date of system usage agreement, dates continued operation periods specific to the verification of the project activity. 2) Subscript all the parameters in line with monitoring methodology. 3) LSC ongoing communication logbooks are available in Aslancık village as per PP, kindly include the same 2.2 of MR. 4) In line with discussion with PP, total 02 employee are recruited in		

Finding	CAR 02
	monitoring period and total 34 employees will be maintained throughout the crediting period, the same is not reflected in section 1.11 of MR incessantly. 5) Confirm in section 1.1 of MR that it is a run of river dam-based project. 6) Kindly provide no of turbines and their exact capacity in section 1.1 of MR. 7) Version no. of methodology and tool is not provided properly in section 1.2, 1.8 and 5.1 of MR. 8) PI provide MW_m and MW_e capacity of project activity in MR.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	- Table 1 in section 1.1. includes technical details for the hydropower plant. Please refer to Table 6 for important dates for the project. - Parameters without subscripts have been updated. - More information is provided regarding logbooks. - Two employees resigned during the monitoring period, not recruited. The plant had initially 36 employees in total (including both employed by the plant and outsourced security personnel). But during the second monitoring period 2 employees resigned and relocated in other cities. - Necessary additions have been made in Section 1.1. - Details have been provided. - The mention of the methodology that the project was registered with have been updated in line with the finding. - Both capacities are provided.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The corrections made in revised MR is found to be satisfactory hence this CAR is closed.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 03
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding (VVB)	CAR being raised for the following corrections related to Monitoring and ER section (4 & 5) of the MR: Following correction required for parameter “EG_y” in section 4.2 of MR: Provide the details of both meters such as calibration done date, first index protocol date , calibration due date, in tabular format . Meters are changed in monitoring period on

Finding	CAR 03
	22/03/2022, hence details of that meters also needs to provide in parameter table "EG_y". Also previous meters calibration date is not provided in MR i.e. 18/09/2020. • PP needs to provide the reason for inclusion of details of 4 meters instead of 2 meters in parameter table for parameter "EG_y". • Provide frequency of calibration of meters is 2 years. • The serial numbers of energy meters are not matching with previous MR.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	• The meters were replaced on 22/03/2022. Also previous meters calibration date is provided in MR i.e. 18/09/2020. • Details for the former meters, test and first index protocol dates are provided. The reason for the instalment of 4 meters is added in the relevant section. • Calibration and test frequencies are also updated and justified.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The corrections made in revised MR is found to be satisfactory hence this CAR is closed.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 04
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding (VVB)	Below Project Description Deviation needs to be provided in section 2.2.2 of MR: 1) During off-site visit interviews with PP, it has been noticed that the as per internal protocol of TEIAS , calibration frequency of energy meters is 2 years. 2) The calibration frequency of energy metres changed from 5 years to 10 years as per new regulation. 3) Describe and report on project description deviations applied in

Finding	CAR 04
	previous monitoring reports as per requirement of MR filling guidelines.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	1&2) Necessary details have been provided. 3) Previous monitoring period's deviation has been included in the section.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The corrections made in section 2.2.2 of revised MR is found to be satisfactory hence this CAR is closed.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed