

DAGBASI HYDROELECTRIC POWER PLANT VALIDATION REPORT



BUREAU VERITAS CERTIFICATION HOLDING SAS
67/71 Boulevard du Château, 92200 Neuilly sur Seine, France
Tél. : +33 (0)1 55 24 70 00
Fax : +33 (0)1 55 24 70
climatechange.ops@uk.bureauveritas.com
www.bureauveritas.com

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Prepared By	Bureau Veritas Certification		
Contact	Centrum Is Merkezi Aydınevler Sanayi Cad. No:3 34854 Kucukyali Maltepe Istanbul/TURKEY Tel: +90 216 518 40 50 www.bureauveritas.com		
Approved By	Anna Kalecheva		
Work Carried Out By	Furkan Sadıkoğlu – Team Leader Murat Gencer – Financial Specialist Yildiz Arikan – Baseline Specialist Burcu Mutman – Internal Technical Reviewer		

Summary:

Bureau Veritas Certification has made the validation of the "Dagbasi Hydroelectric Power Plant" of Alperen Elektrik Uretim A.S located in the boundary of the Anamur District of Province of Mersin on the basis of UNFCCC criteria for the CDM methodology (AMS I.D Version 17), Voluntary Carbon Standard (VCS) v.3.4, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

Dagbasi Hydroelectric Power Plant is owned by Alperen Elektrik Uretim A.S. The project type is run-of-river. The project purpose is supplying electricity generation to the Turkish National Grid by generating electricity from renewable sources. The project total capacity is 10.756 MW (10.433 MWe) which is confirmed through the EMRA Generation License dd. 12/05/2011. The power generation is achieved by installing and operating a run-of-river HPP comprising 3 horizontal axis Francis turbines with 3.58 MW (3.47 MWe) capacity. Project expects to generate and supply 38.446 GWh of electricity per year to the grid and expects to reduce 20,370 tCO₂e per year by replacing non-renewable generation sources in the national grid. The crediting period of the project activity is 11/04/2014 to 11/04/2024.

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and internal technical review followed by the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix B. Taking into account this output, Kilittasi Engineering Consulting & Construction Co., on behalf of the project proponent, revised its project design document, final document being version 8.0, dated 23/06/2014, resolve the issues that have risen during the interviews and subsequent interactions.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology AMS I.D Version 17 "Grid connected renewable electricity generation" and meets the relevant UNFCCC requirements for the CDM Methodology, Voluntary Carbon Standard (VCS) v.3.4 requirements and the relevant host country criteria.

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1 INTRODUCTION

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC CDM Methodology, Verified Carbon Standard (VCS) v.3.4 requirements and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meet the stated requirements and identified criteria. Validation is a requirement for all VCS-VCU projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified carbon units (VCUs).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

1.2 Scope and Criteria

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules, Verified Carbon Standard (VCS) v.3.4 and associated interpretations.

The validation is not meant to provide any consulting towards the Kilittasi Eng. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Level of Assurance

The Level of assurance of the validation report is defined as high.

1.4 Summary Description of the Project

The project is run-of-river type hydroelectric power plant and involves 3 horizontal axis turbines and about 3.58 MW (3.47 MWe) each combining a total installed capacity of 10.756 MW (10.433 MWe). The project activity is located in the Mediterranean Region in Turkey. Project is in the boundary of the Anamur District of Province of Mersin. The project coordinates are validated as follows during the site visit;

Dagbasi Weir	: Latitude (N): 40 17 850 - Longitude (E): 48 00 00
Powerhouse	: Latitude (N): 40 16 200 - Longitude (E): 48 00 80

The project comes under Type I – Renewable Energy Project as per Appendix B of the procedures for the CDM project activities. The project activity consists by Concrete body weir type with 502 m thailweg elevation and 510 m crest elevation. Weir access tunnel of the project activity is 971.5 m length and 4.2(h) x 4.0 m dimensions. The project won't produce any greenhouse gas (GHG) during operation. The electricity generated by the project can displace part of the power from the fossil fuel-fired plants of Turkey and the annual GHG emission

reductions are 20,370 tCO₂e. The lifetime of the project activity validated as 20 years through the “Tool to determine the remaining lifetime of equipment”. In the tool lifetime of the turbines are defined as 150,000 hours. The technical lifetime is calculated as approximately 17 years but the turbines are not operated continuously during the validation. According to project situation and calculations technical lifetime of the project activity is confirmed as 20 years. On the other hand Plant Load Factor is confirmed as 40.8% through the EB48 Annex 11 by the validation team. The crediting period of the project activity is 10 years and 0 months which may be renewed at most twice. The crediting period will be 30 years and 0 months in total.

For the project activity a feasibility report is prepared on December 2009 which is before the investment decision date. The approved feasibility report which is prepared on December 2009 is used for the investment analyses.

CAR02 and **CAR09** have been raised for the brief description of the project activity. The capacity reference, annual electricity generation reference, estimated emission reduction, project timeline and references are added under section 1.1 of the VCS PD and the corrective action request is closed.

2 VALIDATION PROCESS

2.1 Method and Criteria

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 04.0 of the Clean Development Mechanism Validation and Verification Standard, issued by CDM Executive Board after its 74th meeting on 29/07/2013 (Ref-03). The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes details and clarifies the requirements a VCS-VCU project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The completed validation protocol is enclosed in Appendix B to this report.

The validation report underwent an Internal Technical Review (ITR) before requesting publishing of the report for the project activity. The ITR is an independent process performed to examine thoroughly that the process of verification has been carried out in conformance with the requirements of the verification scheme as well as internal Bureau Veritas Certification procedures.

The Lead Verifier provides a copy of the validation report to the reviewer, including any necessary validation documentation. The reviewer reviews the submitted documentation for conformance with the validation scheme. This will be a comprehensive review of all documentation generated during the validation process.

When performing an Internal Technical Review, the reviewer ensures that:

The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.

The review encompasses all aspects related to the project which includes project design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the verification exercise, review of sample documents.

The reviewer compiles clarification questions for the Lead Verifier and Validation Team and discusses these matters with Lead Verifier.

After the agreement of the responses on the 'Clarification Request' from the Lead Verifier as well as the PP(s) the finalized validation report is accepted for further processing.

During the start date of the validation VVM was the current manual for the project activity but it's validity date is finished during the validation. Project activity is also determined through the VVS version 04.0 by the validation team.

2.2 Document Review

The Project Description (VCS-PD) submitted by Kilittasi Eng. and additional background documents related to the project design and baseline, i.e. technical documentation, assessments, reports, national laws and regulations, VCS Project Description Template v.3.2, Approved CDM methodology, VCS v.3.4 requirements, Kyoto Protocol, Clarifications (CL), Corrective Action Requests (CAR), and Forward Action Requests (FAR) on validation requirements to be checked by a Validation/Verification Body (VVB) were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Kilittasi Eng. revised the VCS-PD and resubmitted it on 14/05/2014.

The validation findings presented in this report relate to the project as described in the VCS-PD

2.3 Interviews

On 31/10/2012 and 01/11/2012 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Alperen Elektrik Uretim A.S and Kilittasi Eng. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics:

Interviewed organization	Interview topics
Alperen Elektrik Uretim A.S (Project Owner)	➤ Design of the project activity ➤ The planning and the construction phase of the project ➤ Working conditions ➤ Training of the employees ➤ Monitoring practices
Kilittasi Eng. (Consultant)	➤ Additionality of the project activity ➤ Investment analysis ➤ Baseline determination ➤ Emission reduction calculations ➤ Document review ➤ CARs and CLs

2.4 Site Inspections

A site visit was performed on 31/10/2012 and 01/11/2012, where representatives of Alperen Elektrik Uretim A.S, and Kilittasi Eng. were interviewed about the project. Implementation of the project was observed on-site.

2.5 Resolution of Findings

During the validation, there were no material discrepancies that were identified.

2.6 Forward Action Requests

No forward action request is raised during the validation by DOE.

3 VALIDATION FINDINGS

3.1 Project Details

The project is small scale run-of-river hydroelectric power plant and located in the boundary of the Anamur District of Province of Mersin. Total installed capacity of the project is 10.756 MW (10.433 MWe). Total capacity of the project is confirmed through the electricity generation license dd. 12/05/2011. Expected annual amount of the electricity generation is 38.446 GWh. Annual amount of the electricity generation is confirmed through approved feasibility report dd. December 2009. Project is supplying electricity to the National Power Grid by generating electricity from renewable energy source. The estimated and calculated emission reduction is 20,370 tonnes of CO₂e. Emission factor and reduction methods are checked and confirmed by the validation team completely. Project scope is categorized as Type I – Renewable Energy, Energy Industries in accordance with UNFCCC 4/CMP.1, Annex II, Appendix B. The project main purposes are; reducing the GHG gas emissions in Turkey, being environmentally friendly, having social benefits to local life and creating direct and indirect employment opportunities in the region.

Project is being developed by Alperen Elektrik Uretim A.S Other entities involved in the project are Kilittasi Eng. Handling the carbon consultancy on behalf of the project proponent. Project start date is confirmed as 11/04/2014 through the provisional acceptance of the project activity. The lifetime of the project activity validated for 20 years through the "Tool to determine the remaining lifetime of equipment". In the tool lifetime of the turbines are defined as 150,000 hours. The technical lifetime is calculated as approximately 17 years but the turbines are not operated continuously during the validation. According to project situation and calculations technical lifetime of the project activity is confirmed as 20 years.

The project is located in the boundary of the Anamur District of Province of Mersin. Dagbasi Main Weir coordinates are between 40 17 850 (N) Latitude and 48 00 00 (E) Longitude. The and powerhouse coordinates are between 40 16 200 (N) and 48 00 80 (E). The coordinates are checked by a GPS device by the validation team during the site visit. Coordinates also are checked by the approved feasibility report. Project coordinates are confirmed through the GPS device signs and approved feasibility report.

The project activity consists by Concrete body weir type with 502 m thailweg elevation and 510 m crest elevation. Weir access tunnel of the project activity is 971.5 m length and 4.2(h) x 4.0 m dimensions. All technical details of the project activity is carefully examined and confirmed by the validation team through the approved feasibility study dd. December 2009 and technical specifications of the equipment. However, PP provided the DSI Approval for the feasibility report with a 10.433 MWe capacity. The document is dated on 07/03/2011.

Mandatory laws are applicable to the project are Environmental Law (Nr. 2872 / 11.08.1983), Environmental Impact Assessment Regulation (Nr. 26939 / 17.07.2008), Electricity Market Law (Nr. 4628 / 20.02.2001), Electricity License Regulation (Nr. 24836 / 04.08.2002), Electricity Market Balancing and Conciliation Regulation (Nr. 27200 / 14.04.2009), Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy (Nr. 5346 / 18.05.2005) and Energy Efficiency Law (Nr. 5627 / 02.05.2007). Sources of the validation have been confirmed through the DSI Approved feasibility report dd. December 2009, official project documentation and publicly available laws and TEIAS data. However the investment Decision date is confirmed through the Investment Decision record by Board of Directors dd. 14/03/2010 which is after the date of the DSI approved feasibility report dd. December 2009. The construction agreement is signed between Alperen Elektrik Uretim A.S and Hitit Sanayi Insaat ve Tic. Ltd. Sti on 13/09/2011.

On the other hand confirmed project timeline by the validation team can be seen as follows;

Milestone	Date	Documentary Proof
Preparing Feasibility Report	December 2009	Dagbasi HEPP Feasibility Report
Board of Directors Decision regarding to investing into the project	14 March 2010	Meeting Record
EIA Decision	12 January 2011	EIA Decision Letter
Signing water usage agreement	17 March 2011	Dagbasi HEPP Water usage and

with DSI		operation agreement
Acquisition of energy generation license from EPDK	12 May 2011	EPDK – Dagbasi HEPP Energy Production License
Board of directors Decision regarding to the carbon revenue	16 August 2011	Board of Directors decision record
Construction contract	13 Sep 2011	Contract between Alperen Elektrik Uretim Ltd. Sti and Hiti Sanayi Insaat ve Tic. Ltd. Sti.
Meters' Calibrations	20 March 2014	Toroslar Elektrik Dagitim A.S Calibration Records.
Commissioning date	11 April 2014	Provisional Acceptance
Start date of crediting period	11 April 2014	N/A

Prior consideration is not essential regarding to VCS rules but the project activity is taken into consideration of the prior consideration issue on 16 August 2011 through the Board Decision.

Investment decision date of the project activity is confirmed as 14/03/2010 through the Board decision record.

For the project activity a feasibility report is prepared on December 2009 which is before the investment decision date. The approved feasibility report which is prepared on December is used for the investment analyses and the emission reduction calculations.

The first calibration dates of the meters are confirmed as 20 March 2014 through the Toroslar Elektrik Dagitim A.S calibration records. Brand of the meters and serial numbers are confirmed as for main meter EMH 4241359 and for back-up meter EMH 4241360 through the Toroslar Elektrik Dagitim A.S calibration records.

The commissioning date and the start date of the crediting period is confirmed as 11/04/2014 according to provisional acceptance of the project activity.

CAR06 has been raised for the project timeline. The timeline is added under section 2.5 of the VCS PD with references and the corrective action request is closed by the validation team.

Finally all milestones of the project are checked attentively by the validation team through the contracts and agreements. All given events reference documents are stored in DOE data base and completely confirmed by the validation team.

On the other hand it is confirmed that the project is not a grouped project, has not involved any other emission trading programs and other binding limits, has not participated under other GHG programs and has not created another form of environmental credit of renewable energy certificate by the validation team.

The given parameters' references are detailed in the VCS PD. All references are checked and confirmed by the validation team.

The VVB hereby confirms that the project description in VCS-PD (Version 8.0) is accurate and complete in all aspects of the project description.

CAR16 has been raised for the technical details of the project activity. Details are presented under section 1.1 of the VCS PD and the corrective action request is closed.

3.2 Application of Methodology

3.2.1 Title and Reference

Applied methodology is AMS I.D Version 17 “Grid Connected Renewable Energy Generation” and utilized tools are “Tool for the demonstration and assessment of additionality” v.7.0.0 for additionality and “Tool to calculate the emission factor for an electricity system” v.3.0.0 for calculation of the emission factor the national grid.

3.2.2 Applicability

The steps taken to assess the relevant information contained in the VCS-PD against each applicability condition are described below.

- The project activity is a grid connected renewable energy generation project, utilizing hydraulic power to generate electricity. This condition is confirmed through the EMRA Generation License dd. 12/05/2011 and approved DSI feasibility report dd. December 2009.
- The project activity installs a new power plant at a site where there was no renewable energy generating power plant operating prior to the implementation of the project activity. It is confirmed through the EMRA Generation license dd. 12/05/2011 and site observations.
- The project activity is a run-of-river type project activity therefore its reservoir area is very small. The reservoir are of the project activity is confirmed as 2800 m² through the Dagbasi HEPP Weir Layout drawing (DGB-KT-GE-04). The power density is calculated as 3840 W/m² which is greater than 4W/m² through ACM0002.
- The project capacity is less than the 15 MW limit value for small scale renewable type projects. The installed capacity of the project activity is confirmed as 10.756 MW (10.433 MWe) through EMRA Generation License dd. 12/05/2011.
- The project activity is not a combined heat and power system. This is confirmed through EMRA Generation License and approved DSI feasibility report dd. December 2009.
- The project is not additional to an existing renewable power generation facility. This condition is confirmed through EMRA Generation License and approved DSI feasibility report dd. December 2009.

- The project not a retrofit or modification of an existing facility. This condition is confirmed through EMRA Generation License and approved DSI feasibility report dd. December 2009.

The VVB hereby confirms that the selected baseline and monitoring methodology (AMS I.D, “Grid Connected Renewable Electricity Generation”, version 17.0), tools “Tool for the demonstration and assessment of additionality” (version 07.0) and “Tool to calculate the emission factor for an electricity system” (version 03.0) is previously approved by the CDM Executive Board, and is applicable to the project activity, which, complies with all the applicability conditions therein.

3.2.3 Project Boundary

The VVB validated the project boundary by:

- Review of System Connection Agreement dd. 14/06/2013, the single line diagram, EMRA Generation License dd.12/05/2011, DSI Approved feasibility report dd. December 2009.
- On-site observations and interviews regarding the project site and equipment through a site visit.

The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the national electricity grid. Project emissions are neglected regarding to reservoir area because the power density of the project is higher than 10W/m². Project emission regarding to diesel generator is added to calculations.

Source		Gas	Included?	Justification/Explanation
Baseline	CO ₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity.	CO ₂	Yes	Main emission source. The dominant emissions from power plants are in the form of CO ₂ ; therefore CO ₂ emissions from fossil fuel fired power plants connected to the grid will be accounted in baseline calculations.
		CH ₄	No	Minor emission source
		N ₂ O	No	Minor emission source
Project	CH ₄ emissions from the reservoir CO ₂ emission from fuel oil powered equipments	CO ₂	Yes	Minor emission source
		CH ₄	Yes	Minor emission source
		N ₂ O	No	Minor emission source

Based on the above assessment, the VVB hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

3.2.4 Baseline Scenario

The procedure contained in the methodology to identify the most reasonable baseline scenario has been correctly applied. The baseline scenario has been identified, in line with the applied methodology AMS I.D, v.17.0, as “Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the ‘Tool to calculate the emission factor for an electricity system ver.03’ under Section 2.4 and Section 3.1 of VCS-PD v.8.0

In line with the requirements of the applied tool, the Simple Operating Margin Emission Factor (EF_{grid,OM simple,y}) has been calculated ex-ante, using TEIAS data for 2008-2010 period which is actual data during the investment decision date. The operating margin is calculated as **0,655 tCO₂ / MWh**. The operating margin calculation is checked and accepted by the Baseline specialist through the actual references for the project activity.

For BM Calculation the set of power capacity additions in the electricity system that comprise 20% of the system generation and that have been built recently. The most recent data TEIAS 2011 values are used. For capacity additions from other types of power procedures (i.e Autoproducers, IPP, BOO, BOT) projected generation in 2010 as displayed in TEIAS 2011 is used to estimate actual current generation, because this is the most current data source. The tool refers that “Power plant registered as CDM project activities should be excluded from the sample group m.” Through this statement VER project activity in Turkey between 01.01.2009 – 31.12.2010 are excluded from the list. The build margin is calculated as **0,4043 tCO₂ / MWh**. The build margin calculation is checked and accepted by the Baseline specialist through the actual references for the project activity.

In accordance with the methodology of the “Tool to calculate the emission factor for an electricity system” v.03.0, Project participant determined the Combined Margin Emission Factor as **0.5229 tCO₂/MWh** and this have been confirmed by the validation team with reviewing all baseline calculation sheet equations and confirming the parameters used for the calculations and their relevant sources.

CAR30 has been raised for the OM and BM calculations by the validation team. BM and CM calculations are revised through the most recent available references and the corrective action request is closed.

After approval of the Baseline specialist all clarifications and corrective action requests related to Baseline calculations are closed by the validation team.

Based on the above assessment, the VVB hereby confirms that:

- (a) All the assumptions and data used by the project participants are listed in the VCS-PD, including their references and sources;
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the VCS-PD;

(c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;

(d) Relevant national and/or sectoral policies and circumstances are considered and listed in the VCS-PD;

(e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed VCS-VCU project activity.

3.2.5 **Additionality**

The step taken and sources of information used to cross-check the information contained in the VCS PD Ver. 8.0 on this matter are described below.

Prior consideration of VCU credits for the project activity is not mandatory under VCS v.3.4 requirements, and project activity does not take into consideration to the prior consideration. Investment decision date of the project activity is confirmed as 14/03/2010 through the board decision with a decision number of 004. The project commissioning date and the crediting period start date is confirmed as 11/04/2014 through the provisional acceptance of the project activity.

“Tool for demonstration and assessment of additionality” (v07.0.0) has been utilized to demonstrate additionally. Following the requirements of the aforementioned tool, first valid alternatives to the project activity were determined and their compliance with relevant mandatory laws and regulations were evaluated. Following this, Investment Analysis was used to demonstrate the additionally of the project.”

Under sub-step 1a, the following three alternatives are identified as the alternative scenarios that are likely to happen in the absence of the project activity:

Alternative (a): Proposed project activity undertaken without being registered as a CDM project activity.

Alternative (b): Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs or services with comparable quality, properties and application areas

Alternative (c): Continuation of the current situation (no project activity or other alternatives undertaken)

Alternative (a) is not found financially attractive regarding to investment analysis. Alternative (b) is not found also as a realistic scenario. Energy investment alternatives such as wind, solar and geothermal are not realistic although Electricity Market License Regulation gives priority to these types of renewable projects, which utilize local resources with low environmental impact. Only Alternative (c) is found as realistic and credible scenario which is same amount of electricity generation by existing grid.

Under Step-2 Investment Analysis is performed to demonstrate the additionality of the project. The investment decision date is provided by Board Decision dd. 14/03/2010 with decision number 004. The investment analysis inputs are confirmed through the approved feasibility report dd. December 2009.

Under sub-step 2a Option III – Benchmark Analysis is selected through the “Tool for the demonstration and assessment of additionality Version (07.0.0)”. Option I is Simple Cost analysis and Option II is Investment Comparison analysis in the tool. Option I cannot be applied since project has income from sale of generated electricity without VER revenue. Option II is not applicable, as the baseline scenario of the proposed project is the national grid supplying the same amount of electricity rather than a similar investment project alternative and the project owner has no investment options to compare with.

Under Sub-step 2b Benchmark Analysis Method is applied. Additionality tool version 07.0.0 defined that benchmark shall be derived from by an independent expert (financial) expert or documented by official publicly available financial data in the Paragraph 38 under section (a).

Benchmark derived from Ministry of Environment and Urbanization report of *Impact Scenarios of Carbon Finance on the Renewable Power Capacity of Turkey* dd. July 2010. The benchmark is confirmed as 15% through the report by the validation team.

Under sub-step 2c financial parameters used for investment analysis is determined. The project total cost is confirmed as 20,568,400 \$ through the DSI approved feasibility report 12/2009. The all project IRR inputs are checked and accepted by the validation team. The annual electricity generation accepted as 38.446 GWh/year through the approved feasibility report dd. December 2009. On the other hand the exchange rate is accepted as 1.4098 USD/TL through the approved feasibility report dd. December 2009.

Main Financial Parameters used for the Investment Analysis

Parameters	Unit	Value	Source
Expected Electricity Generation	GWh	38.446	Dagbasi HEPP Feasibility Report 2009. pp.5-6.
Total Investment Cost	USD	20,568,400	
1 Construction Cost	USD	11,010,721	
2 Hydromechanic Eq. Cost	USD	509,170	
3 Electromechanic Eq. Cost	USD	3,764,600	
4 Project Survey, Design, Eng. & Consult. Cost	USD	2,636,575	
5 Expropriation and Forestry expenses	USD	354,660	
6 Unexpected Expenses	USD	2,292,674	
Operational Cost	USD	439,146	
Revenues	USD/Year	3,844,566	
Exchange Rate	USD/TL	1.4098	

CAR21 has been raised regarding to investment analysis inputs and references. References are provided transparently according to Dagbasi HEPP Feasibility Report, December 2009 and the corrective action request is closed.

The plant load factor is calculated through the EB 48 Annex 11 “Guidelines for the reporting and Validation of plant load factors, Version 01”.

PLF calculated as follows; $38,446 \text{ MWh} / 10.756 \text{ MW} / 8760 \text{ hours /yr} = 40.8 \%$.

CAR26 has been raised during the first round of the validation protocol. The PLF is calculated through EB 48 Annex 11 and the corrective action request is closed.

Equity IRR has been calculated and confirmed as **10.65 %** based on the parameters given in the feasibility report and the main financial parameters used for the investment analysis table. Equity IRR is lower than the benchmark of 15%. In the sensitivity analysis -10%, +10% range is applied for the investment cost, Operating cost and the electricity sales revenue. The calculated IRR figures are again below the benchmark rate. All figures such as investment cost, fix rates, installed power, operation costs, energy tariffs are confirmed by the validation team.

The lifetime of the project activity is confirmed as 20 years through the “Tool to determine the remaining lifetime of equipment”. Under the tool lifetime of the turbines are described as 150,000 hours. According to calculations the technical lifetime of the project is described as 17 years but during the validation process turbines did not operate continuously and the lifetime is accepted and confirmed as 20 years. IRR analysis is also checked and accepted by the financial specialist.

Under sub-step 2d, sensitivity analysis is applied to the following items:

- Investment Cost
- Operating Cost
- Electricity Sales Revenue

For a decrease of, %10 and for an increase %10 the results of the sensitivity analysis without carbon revenue are presented as below;

Variation	Investment Cost (IRR %)	Operating Cost (IRR %)	Electricity Sales Revenue (IRR %)
-10%	12.22	10.83	8.96
-5%	11.40	10.74	9.82
0%	10.65	10.65	10.65
+5%	9.95	10.55	11.45
+10%	9.30	10.49	12.24

The sensitivity analysis provides that the project activity is not financially attractive. The biggest value is 12.24 % which is lower than the Benchmark IRR % 15. If the investment cost drops 24 % the project activity may hit the IRR benchmark value. On the other hand for operating cost the costs will be approximately be same regarding to personnel expenses, periodic maintenance and other administrative costs. These alternatives are impossible and realistic for the project activity.

Therefore the project is considered as additional to the baseline scenario and the project activity needs for additional revenues from carbon credits to implement the project.

CAR29 has been raised for the IRR analysis by the financial expert of the validation team. Calculations are revised and the corrective action request is closed.

Barrier Analysis is not used for the project activity.

Under Step-3 common practice is not used according to VVS v.04 Paragraph 7.12.12.1 -128.

3.2.6 Quantification of GHG Emission Reductions and Removals

3.2.6.1 Baseline Emissions

The baseline emissions for the project were calculated in line with the applied methodology and the relevant tools AMS I.D Version 17 “Grid Connected Renewable Energy Generation”; “Tool for the demonstration and assessment of additionality” v.07.0; “Tool to calculate the emission factor for an electricity system” v.03.0.

$$BE_y = EG_{BL,y} * EF_{CO2,grid,y}$$

Where:

BE_y	Baseline emissions in year y (tCO2)
$EG_{BL,y}$	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y (MWh)
$EF_{grid,CM,y}$	CO2 emission factor of the grid in year y (tCO2/MWh)

3.2.6.2 Project Emissions

The project emission from hydro power plant is defined by the formula;

$$PE_y = PE_{HP,y}$$

Where:

PE_y	Project emissions in year y (tCO2e/yr)
$PE_{FF,y}$	Project emissions from fossil fuel consumption in year y (tCO2/yr)

Fossil fuel and geothermal considerations are not applicable and project emissions arising from the reservoir formed by the project are neglected since:

$$PD = \frac{Cap_{PJ} - Cap_{BL}}{A_{PJ} - A_{BL}}$$

Where:

PD =	Power density of the project activity, in W/m ²
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 reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m ²)
A _{BL} =	Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m ²). For new reservoirs, this value is zero

The project is a new hydropower plant so Cap_{BL} and A_{BL} are taken as zero. A_{PJ} is confirmed as 2800 m² through the technical drawing of the reservoir area by the validation team. Power density confirmed by the validation team as follows;
 $PD = 10.75 \times 10^6 \text{ W} / 2800 \text{ m}^2 = 3840 \text{ W/m}^2$

The power density is 3840 W/m² which is greater than 10W/m² so the project emissions are taken as zero. **PE_y = 0**

CAR27 has been raised for the reservoir area of the project activity. Reservoir area of the project activity is confirmed as 3840 m² through Dagbasi HEPP Weir Layout drawing with the number of DGB-KT-GE-04 and the issue is closed.

For determination of project emissions from fossil fuels, CO₂ emission of fossil fuels used must be calculated as described in *PE tool*:

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

The diesel generator is FG Wilson P110-2 model. It is assumed 60 hour operation and 12 liter diesel consumption will take place annually. Annual expected total diesel consumption is calculated as 720 liters.

The project emission is calculated through the following formula as;

$$PE = (FD_y) \times NCV_{\text{diesel}} \times COEF_{\text{diesel}}$$

PE	CO2 Emission due to Diesel Consumption (tCO _{2e})	
(FD _y)	Annual diesel fuel consumption (m ³)	720 lt or 608.4 kg (608.4 x 10 ⁻⁶ Gg) Diesel oil density=0.845 kg/lt Annual amount of diesel consumption= 0.845 x 720 = 608.4 kg
NCV _{diesel}	Net calorific value of diesel oil (TJ/m ³)	43.3 TJ/Gg (http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1)

		Ch1 Introduction.pdf
COEF _{diesel}	CO2 emission coefficient of diesel oil (tCO ₂ /TJ)	74800 kg/TJ= 74.8 tCO ₂ /TJ (http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf)
$PE = (608.4 \times 10^{-6} \text{ Gg}) \times (43.3 \text{ TJ/Gg}) \times (74.8 \text{ tCO}_2/\text{TJ})$ $PE = 1.974 \text{ tCO}_{2e}$		

3.2.6.3 Leakage Emissions

According to the AMS I.D Version 17, leakage emissions are neglected.

3.2.6.4 Summary of GHG emission reductions or removals

Accordingly the baseline emissions BE_y are calculated as following:

$$BE_y = (EG_y - EG_{\text{baseline}}) \times EF_{\text{grid, CM, y}}$$

Where:

BE _y	Baseline emissions (tCO _{2e})
EG _y	Annual electricity supplied by the project to the grid (MWh)
EG _{baseline}	Baseline electricity supplied to the grid in the case of modified or retrofit facilities (MWh). For new power plants this value is taken as zero.
EF _{grid, CM, y}	Baseline emission factor (tCO _{2e} /MWh)
Y	Refers to a given year

$$EG_y = 38,446 \text{ MWh/year}$$

$$EG_{\text{baseline}} = 0 \text{ (The figure is zero for the project as the project is new)}$$

Therefore, the expected baseline emission for the full year production of the project is:

$$BE_y = 0.5299 \times (38,446 - 0) = 20,372 \text{ tCO}_2e$$

According to the AMS I.D Version 17, the generic equation for the calculation of emission reduction is:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER _y	Emission reductions for the year y (tCO ₂)
BE _y	Baseline emissions for the year y (tCO ₂)
PE _y	Project emission for the year y (tCO ₂)
LE _y	Leakage Emission in year y (tCO ₂)

With an estimated annual fuel consumption of 720 lt, and PEFF,y calculated in Section 3.2 above, total emission of the project is:

$$PE_y = PEFF,y = 1.974 \text{ tCO}_2/\text{yr}$$

$$\begin{aligned} ER_y &= 20,372 - 1.974 \\ &= \mathbf{20,370 \text{ tCO}_2} \end{aligned}$$

Starting date of the project activity is confirmed as 11/04/2014 through the provisional acceptance.

Years	Estimated baseline emissions or removals	Estimated project emissions or removals	Estimated leakage emissions (tCO ₂ e)	Estimated net GHG emission reductions or removals (tCO ₂ e)
2014 (11/04/2014 – 31/12/2014)	14,735	1.434	0	14,733.6
2015	20,372	1.974	0	20,370
2016	20,372	1.974	0	20,370
2017	20,372	1.974	0	20,370
2018	20,372	1.974	0	20,370
2019	20,372	1.974	0	20,370
2020	20,372	1.974	0	20,370
2021	20,372	1.974	0	20,370
2022	20,372	1.974	0	20,370
2023	20,372	1.974	0	20,370
2024 (01/01/2024 – 11/04/2024)	5,637	0.54	0	5,636
Total	203,720	19.74	0	203,700

Based on the above assessment, the VVB hereby confirms that:

- (a) All assumptions and data used by the project participants are listed in the VCS-PD, including their references and sources;
- (b) All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PD;
- (c) All values used in the PD are considered reasonable in the context of the proposed CDM project activity;
- (d) The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- (e) All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PD.

The formulas and factors used in the calculation of GHG emissions are found to be transparent and correct by the validation team. Statistics related to the national grid were taken from publicly available TEIAS, EMRA sources. All data, parameters and their sources, available at validation for the ex-ante calculation of the Combine Margin Emission Factor have been validated by the baseline expert of the validation team to be conservative and appropriate.

3.2.7 Methodology Deviations

There are no methodological deviations applied to the project.

3.2.8 Monitoring Plan

The monitoring plan includes the monitoring of several parameters, the main parameter in the monitoring plan is the quantity of the net electricity that is delivered to the grid, and this parameter will be the basis for the emission reduction calculations. According to the methodology AMS I.D Version 17, the parameters used to calculate the power density of HEPPs also need to be monitored. The DOE hereby confirms that the monitoring plan complies with the requirements of the methodology.

Data and parameters available at validation

The Combined Margin emission factor is calculated ex-ante; the parameters used in the calculation of the emission factor are available at validation. The parameters used to calculate the power density of HEPPs also are available at validation. The below table shows the data and parameters that are available at validation

Parameter	Data Unit	Description	Source
Gross EGy	GWh	Annual Gross Electricity Generation of Turkey in year y. y: 2008,2009 and 2010.	TEIAS Web Site, Turkish Electricity Statistics, Year 2010. http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2011/istatistik%202011.htm
Net EGy	GWh	Annual Net Electricity Generation of Turkey in year y. y: 2008,2009 and 2010.	TEIAS Web Site, Turkish Electricity Statistics, Year 2010. http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2011/istatistik%202011.htm
Ely	GWh	Net electricity imported to the grid in year y. y: 2008,2009 and 2010.	TEIAS Web Site, Turkish Electricity Statistics, Year 2010. http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2011/istatistik%202011.htm

FC_{i,y}	Tonnes or 1000 m ³	Annual Fuel Consumption by fuel type in year y. y: 2008,2009 and 2010.	TEIAS Web Site, Turkish Electricity Statistics, Year 2010. http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2011/istatistik%202011.htm
HV_{i,y}	T _{Cal} /Mass or T _{Cal} /Volume	Heating Values of fuels consumed for electricity generation by fuel type in year y. y: 2008,2009 and 2010.	TEIAS Web Site, Turkish Electricity Statistics, Year 2010. http://www.teias.gov.tr/T%C3%BCrkiyeElektrik%C4%B0statistikleri/istatistik2011/istatistik%202011.htm
NCV_{i,y}	TJ/kton, TJ/million m ³	Net Calorific Values of fuels consumed for electricity generation by fuel type in year y	http://www.teias.gov.tr/
Electricity Capacity Additions	m ²	Capacity addition to the national grid between 2009- 2010, which comprises the 20% of the total electricity generation in 2010.	TEIAS, “10 Year Energy Generation Capacity Projection Report”, 2011 (In Turkish). pp.88- 106. Available at Available at http://www.teias.gov.tr/KapasiteProjeksiyonu.aspx (Click on the “2011” link). TEIAS, “10 Year Energy Generation Capacity Projection Report”, 2010 (In Turkish). pp.85- 100. Available at http://www.teias.gov.tr/KapasiteProjeksiyonu.aspx
EF_{grid,CM,y}	tCO ₂ /MWh	Combined margin CO ₂ emission factor for grid connected power generation in year y	Dagbasi HEPP VCS PD-Baseline Calculations. (0.5299 tCO ₂ /MWh)

Data and parameters monitored

Data Unit / Parameter:	Electricity Generated by the Dagbasi HEPP (EG _{Facility,y})
Data unit:	GWh/yr
Description:	Net electricity supplied to the national grid by the Dagbasi HEPP in year y.
Source of data:	Monthly official TEIAS invoices.
Description of measurement methods and procedures to be applied:	Measured by TEIAS-approved power meters located at the grid interface (TEIAS substation). Measured data is stored at the PMUM web site, which is operated by the TEIAS. Monthly official TEIAS invoices will be used for calculating

	EG_y. As a note, monthly settlement notifications of PMUM consist of electricity production and withdrawn from the grid on an hourly basis. PMUM data will be used to calculate net amount of electricity generated which will be equal to the electricity supplied to the grid minus electricity withdrawn from the grid.
Frequency of monitoring/recording:	Monthly
Value applied:	38.446 GWh /year (expected)
Monitoring equipment:	Monitoring equipment is the power meters located at the TEIAS substation. They will measure the amount of electricity supplied to the grid and withdrawn from the grid. One power meter will be the main one, and the other will serve as the backup. Power meters will be sealed by the TEIAS to prevent any possible interventions. Power meters will measure data hourly; however, readings will be on a monthly basis. Collected data will be stored at the PUMM by the TEIAS. Power meters calibration date is 20.03.2014. Brand of power meter is EMH and main power meter number is 4241359 and backup power meter number is 4241360.
QA/QC procedures to be applied:	PMUM settlement data will be used for crosschecking monthly TEIAS invoices.
Calculation method:	N/A
Any comment:	

Data Unit / Parameter:	Apj
Data unit:	m ²
Description:	Area of the Project reservoir measured on the surface of the water, after the implementation of the Project activity, when the reservoir is full.
Source of data:	Project Final Design drawings Dagbasi HEPP Weir Layout DGB-KT-GE-04
Value applied:	2800 m ²
Justification of choice of data or description of measurement methods and procedures applied:	Official detailed design document of the project.
Any comment:	-

Data Unit / Parameter:	CAP_{pj}
Data unit:	MWe
Description:	Installed capacity of the hydropower plant after the implementation of the project activity
Source of data:	Project site
Value applied:	10.433 MWe
Justification of choice of data or description of measurement methods and procedures applied:	The parameter will be determined from the labels on the equipment and commissioning approval letter issued by Ministry of Energy and Natural Resources
Any comment:	-

Data Unit / Parameter:	PE_y
Data unit:	tCO _{2e}
Description:	Project emission
Source of data:	Annual diesel bills
Value applied:	1.974 tCO _{2e} (expected)
Justification of choice of data or description of measurement methods and procedures applied:	Annual diesel consumption by the diesel generators is the main source of project emission. The only way to measure diesel consumption is the diesel bills. As described in section 3.2, project emission will be calculated.
Any comment:	-

CAR27 are raised by the validation team. CAP_{pj} and Ap_j parameters are added under section 4.1 and 4.2 of the VCS PD and issue has been closed.

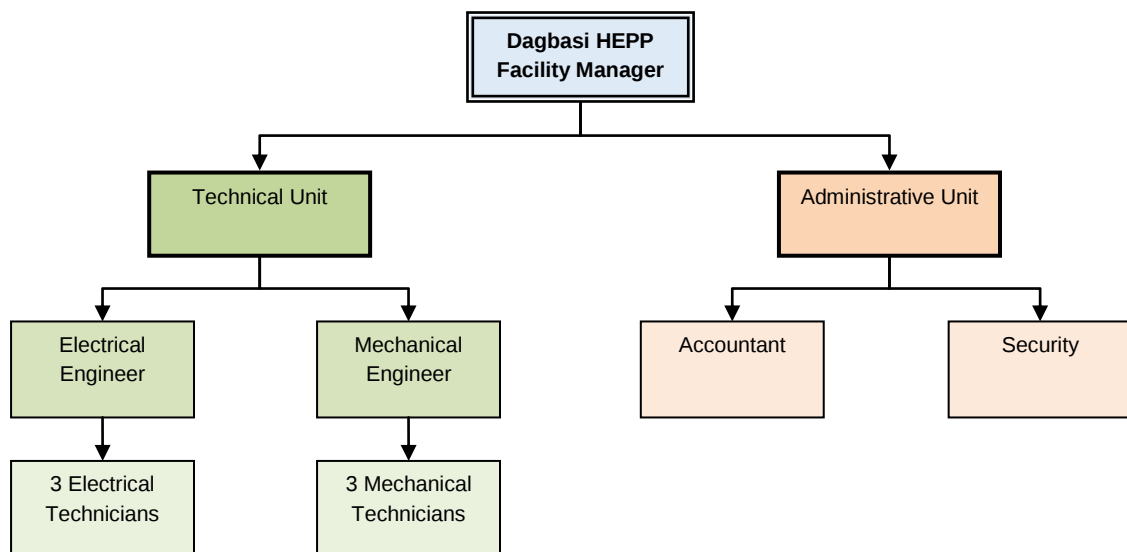
Monitoring plan given in VCS-PD, are in line with the monitoring requirements of the applied approved CDM methodology, AMS I.D Version 17. Main parameter monitored in line with the methodology is the net electricity supplied to the grid, which will be the basis of the amount of emission reduction achieved by the project. Roles and responsibilities regarding monitoring have been given under section 4.3 of the VCS-PD v.8.0

Regarding monitoring of the quantity of net electricity delivered to the grid (EG_y), the main source for the data has been determined as the Monthly official TEIAS invoices (Market Financial Settlement Centre) records, PMUM (Market Financial Settlement Centre) records will be used as the basis for cross-checking the Monthly official TEIAS invoices. Readings will be taken from a set of meters, one main and one reserve at the substation. TEIAS is the responsible for the calibration of the meters if any change occurs between the main and reserve meters.

The first calibration dates of the meters are confirmed as 20 March 2014 through the Toroslar Elektrik Dagitim A.S calibration records. Brand of the meters and serial numbers are confirmed as for main meter EHM 4241359 and for back-up meter EHM 4241360 through the Toroslar Elektrik Dagitim A.S calibration records.

CAR05 has been raised for the cross check process of the electricity generation values. Cross check process is clearly described under section 4.2 of the VCS PD and the issue has been closed.

Plant manager is the responsible for the implementation of the monitoring plan and preparation of the monitoring report. The TEIAS invoices will be recorded by the plant manager and also PMUM records will be cross check by the plant manager. Data will be kept for two years following the completion of the crediting period. The monitoring team structure can be seen as below;



CAR04 has been raised by the validation team for the role diagram. Role diagram is added under section 4.3 of the VCS PD and the corrective action request is closed.

By national law, the calibration and maintenance responsibilities regarding these meters belong solely to TEIAS. The meters are sealed by them and are never accessible by other parties. Calibration period for the devices was determined as 10 years by regulations however the parties can demand the calibration in case regarding of two meters with (0.5s accuracy level and complying with TS EN 62053 – 22 standard) are inconsistent, when TEIAS will provide required services without waiting for the 10 year period. These responsibilities have been documented through the project System Connection Agreement dated 14/06/2013.

The VVB hereby confirms that the project participants are able to implement the monitoring plan.

3.3 Environmental Impact

The project has received an “EIA is not required” according to Turkish environmental law by Ministry of Environment and Forestry on 12/01/2011 with decision number of 228.07/60-0493. A PIF dd. 09/2010 has been prepared to evaluate possible environmental impacts and preventive measures that will be taken to eliminate and/or minimize those impacts of the project activity. Regarding to PIF no negative impact is identified for the project activity. On the other hand, two more reports were prepared for the project per related to environmental regulations. Ecological report which analyses the impact of the project on local system and Water Use rights report which discuss the local water needs in the project site, irrigation farm land, fish warms and drinking water. Both reports which are prepared by the experts provide that the project activity does not have negative effect on local ecosystem and local water needs. The validation team confirms that the project activity does not have any negative environmental impact according to “EIA is not required” certificate, Ecosystem report and water use rights report.

3.4 Comments by Stakeholders

Regarding to VCS rules no stakeholder meeting is needed but the project owners are informed the stakeholder who lives near the project site. The meeting was organized on October 14,2011 in Sugozy Primary village located at the Sugozy village which is closest residential area of the project. Mayor of the Anamur Municipality, a representative from the State of Hydraulics Works (DSI), the president of the Irrigation Union and the local stakeholders are attended to the meeting. The stakeholders have generally positive opinions for the project activity and they declared that their faith for the project activity.

4 VALIDATION CONCLUSION

Bureau Veritas Certification has performed a validation of the Dagbasi Hydroelectric Power Plant. The validation was performed on the basis of UNFCCC criteria, applied CDM Methodology AMS I.D Version 17.0, VCS criteria and Turkey's criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and internal technical review followed by the issuance of the final validation report and opinion. Project participant/s used the latest tool for demonstration of the additionality. In line with this tool, the VCS-PD provides analysis of investment barriers to determine that the project activity itself is not the baseline scenario.

As a hydro power production plant, the project is likely to result in reductions of GHG emissions partially. An analysis of the investment barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Project's technical aspects, annual expected generation amounts and ex-ante calculated grid combined emission factor has been confirmed by the validation team and the ex-ante calculations of the expected emission reductions (20,370 tonnes CO₂e) have been validated, therefore given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions (20,370 tonnes CO₂e) that has been validated in the VCS-PD v.8.0.

The review of the project design documentation (version 03) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfilment of stated criteria.

In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM Methodology AMS I.D Version 17, VCS v.03.4 and the relevant host country criteria. Bureau Veritas Certification thus requests registration of 'Dagbasi Hydroelectric Power Plant' as a VCS-VCU project activity.



Mrs. Burcu MUTMAN BORAN

Internal Technical Reviewer

02/07/2014



Mr. Furkan SADIKOĞLU

Team Leader

02/07/2014

5. REFERENCES

- Dagbasi VCS PD Ver 1.0 - 15 June 2012
- Dagbasi VCS PD Ver 2.0 - 16 July 2013
- Dagbasi VCS PD Ver 3.0 - 11 September 2013
- Dagbasi VCS PD Ver 4.0 - 9 October 2013
- Dagbasi VCS PD Ver 5.0 - 26 December 2013
- Dagbasi VCS PD Ver 6.0 – 26 December 2013
- Dagbasi VCS PD Ver 7.0 – 14 May 2014
- Dagbasi VCS PD Ver 8.0 – 23 June 2014
- Dagbasi EF Calculation Excel Sheet Ver 01
- Dagbasi EF Calculation Excel Sheet Ver 02
- Dagbasi EF Calculation Excel Sheet Ver 03
- Dagbasi IRR Calculation Excel Sheet Ver 01
- Dagbasi IRR Calculation Excel Sheet Ver 02
- Dagbasi IRR Calculation Excel Sheet Ver 03
- Dagbasi IRR Calculation Excel Sheet Ver 04
- Dagbasi IRR Calculation Excel Sheet Ver 05
- Dagbasi Common Practice Excel Sheet Ver 01
- Dagbasi HEPP Ecological Report – 20/12/2010
- Dagbasi HEPP Water Use Right Report
- Dagbasi HEPP Approved Feasibility Report 2009
- Dagbasi “EIA Not Required” Certificate – 12/01/2011
- Dagbasi HEPP Project Introduction File – 2010
- Dagbasi EMRA Generation License – 12/05/2011

- DSI Approval for feasibility report – 07/03/2011
- Water Usage Agreement – 07/03/2011
- Dagbasi Board Decision – 16/08/2011
- Construction Agreement – 13/09/2011
- Site Delivery Record – 28/09/2011
- Turbine Agreement – 03/11/2011
- DSI View Article to the EMRA – 09/05/2012
- System Usage Agreement – 14/06/2013
- Board Decision on Investment – 14/03/2010
- Reservoir Area Technical Drawing – March 2010
- Provisional Acceptance – 11/04/2014
- First Index Protocol – 20/03/2014

PERSONS INTERVIEWED

- **Mr. Mehmet Uğur** – Alperen Elektrik Uretim A.S – +90 531 085 98 40
- **Cahit Taşdemir** – Construction Yard Chief - +90 532 361 06 13
- **Mr.Ersöz Erdoğan** – Kilittasi Engineering Consulting & Construction Co (Consultant) – +90 312 472 77 67
- **Mrs. İncigül Erdoğan** – Kilittasi Engineering Consulting & Construction Co (Consultant) – +90 312 472 77 67

6. VALIDATION TEAM

Internal Technical Reviewer: Burcu Mutman – Environmental Engineer

Bureau Veritas Certification SAS – Internal Technical Reviewer

Burcu Mutman is an auditor for environment, safety and quality management systems. Has participated various online trainings, seminars and personal trainings on Gold Standard also participated in the Gold Standard Academy in 2009 and 2010.

Team Leader : Furkan Sadikoglu – Electrical and Electronics Engineer

Bureau Veritas Certification SAS – Lead Verifier

Furkan Sadıkoğlu is an Electrical & Electronics engineer. He has an experience in renewable energy and LED lightning sectors and he has over 2 years' experience in energy sectors. He has participated online seminars in the Gold Standard Academy in 2012 and 2013 and is a Lead Verifier for GHG emission reduction projects.

Baseline Specialist: Mrs. Yildiz Arikan - Assoc. Professor Dr

Sabancı University, Faculty of Management

Yildiz Arikan is an Electrical engineer and is working at Sabancı University. She has supported thesis related with energy . Also she has been conducting research studies on energy including "CO2 Emission Research" Studies. Academically, Yildiz Arikan is working also on GHG project since 2005.

Investment Analysis Specialists: Mr. Murat Gencer – Master of Economics

RiskTürk Software Development and Consultancy – Head of Financial Analysis Team

Murat Gencer, consultant and a trainer, has over 11 years of experience in FMCG, software development and banking sectors. He is specialized in project finance, financial modelling, risk management and MS Excel applications.

Validation requirements based on the Voluntary Carbon Standard

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
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1. VCS Program specific issues					
a. Have the project(s) created another form of environmental credit (for example renewable energy certificates)?	VCS	3.1	The project did not and does not intend to generate any other form of GHG related environmental credit for GHG emission reductions under the VCS program.	OK	OK
b. If yes, have the project participants provided a letter from the program operator that the credit has not been used and has been cancelled from the relevant program?	VCS	3.1	N/A	OK	OK
c. Are the VCS PD, monitoring reports, and other documents required under the VCS Program in English?	VCS	3.2	All documents required under the VCS Program written in English language.	OK	OK
2. Project level requirements					
a. General requirements					
a. Have the project proponent applied an approved VCS Program methodology or a methodology from an approved GHG Program based on the list of current VCS Program approved GHG Programs and methodologies as set out on www.v-c-s.org ?	VCS	5.2	Project proponent applied approved CDM methodology and tools which are approved by VCS Program: - AMS-I.D : “Grid Connected Renewable Electricity Generation” (Version 17.0) “Tool to calculate the emission factor for an electricity system” (Version 2.2.1) “Tool for the demonstration and assessment of additionality”, (Version 6.0.0)	OK	OK
b. Is the Project Start Date before 1 January 2002? (If yes, a CAR shall be raised as the Project Start Date for non-AFOLU projects for the VCS 2007.1 shall not be before 1 January 2002)	VCS	5.2.1	Project start date is expected as 01.04.2013.	OK	OK
c. Will this validation be completed within two years of the Project Start Date? If not, was this validation contracted before 19 November 2008? (If yes validation shall be completed by 19 November 2009 and proof of contracting prior to 19 November 2008 shall be provided)	VCS	5.2.1	Validation will be completed within two years of the Project start date.	OK	OK
d. Is the earliest Project Crediting Period Start Date under the VCS 2007.1 28 March 2006 for non-AFOLU projects and 1 January 2002 for AFOLU projects ?	VCS	5.2.1	N/A	OK	OK

e. Does the project reduce GHG emissions from activities that are included in an emissions trading program; or take place in a jurisdiction or sector in which binding limits are established on GHG emissions?	VCS	5.2.1	It is explained in section 1.12.2 of the VCS PD that GHG emission reductions or removals generated by the proposed project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions.	OK	OK
f. If yes, have the project proponents provided evidence that the reductions or removals generated by the project have or will not be used in the emissions trading program or for the purpose of demonstrating compliance with the binding limits that are in place in that jurisdiction or sector? [Such evidence could include: a letter from the program operator or designated national authority that emissions allowances (or other GHG credits used in the program) equivalent to the reductions or removals generated by the project have been cancelled from the program; or national cap as applicable or; purchase and cancellation of GHG allowances equivalent to the GHG emissions reductions or removals generated by the project related to the program or national cap]	VCS	5.2.1	N/A	OK	OK
g. Have project proponents claimed GHG credits from one project under more than one GHG Program? (If yes, a CAR shall be raised, as Project proponents shall not claim GHG credits from one project under more than one GHG Program)	VCS	5.2.1	The project has not been registered and/or has applied for any other GHG program.	OK	OK
h. Was this project rejected by other GHG Programs?	VCS	5.2.2	This project was not rejected by other GHG programs.	OK	OK
i. If yes, have project proponents:	VCS	5.2.2	<i>Please see below.</i>		
i. clearly stated in its VCS PD all GHG Programs for which the project has applied for credits and why the project was rejected? (Such information shall not be deemed commercially sensitive information)	VCS	5.2.2	N/A	OK	OK
ii. provided the VCS Program validator and verifier, VCS Program project database and VCS Program Registry	VCS	5.2.2	N/A	OK	OK

with the actual rejection document(s) including any additional explanations?					
j. Is this a renewal of the Project Crediting Period?	VCS	5.2.3	The project crediting period will cover a period of 10 years starting from the project start of 01.04.2013 until 01.04.2023, with an option to be renewed 2 times.	OK	OK
k. If yes have a VCS Program approved validator determined that the original project baseline scenario(s) and additionality is still valid or has been updated taking account of new data and changed VCS Program requirements where applicable?	VCS	5.2.3	The build margin emission factor is calculated for the first crediting period, based on the most recent information available on units. For the second crediting period, the build margin emission factor will be updated based on the most recent information available on units already built at the time of submission of the request for renewal of the crediting period to the DOE. For the third crediting period, the build margin emission factor calculated for the second crediting period will be used. For this project ex-ante vintage is selected.	OK	OK
b. Standards and factors					
a. Do standards and factors used to derive GHG emission data as well as any supporting data for additionality and baseline scenario(s) meet the following requirements:	VCS	5.5	<i>Please see below.</i>		
i. be publicly available from a reputable and recognised source (e.g. IPCC, published Government data etc)?	VCS	5.5	Standards and factors used from TEIAS, EPDK and IPCC. These sources are not publicly available. Please provide references clearly in VCS PD.	CAR01	OK
ii. be reviewed as part of its publication by a recognised competent organization?			Will be answered after CAR01 is closed.	CAR01	OK
c. Project grouping					
a. Is this a grouped project?	VCS	5.6	Dagbasi HEPP is a single project. It is defined under section 1.13 of the VCS PD. It was seen that the project activity is not a grouped project.	OK	OK
b. If yes, was this grouped project described in one VCS PD?	VCS	5.6	N/A	OK	OK
c. Does this PD include a description of the central GHG information system and controls associated with the project and its monitoring?	VCS	5.6	This VCS PD includes description of the central GHG information system and controls associated under monitoring section.	OK	OK

d. What is the sampling carried out by the VCS verifier?	VCS	5.6	Dagbasi HEPP is not a part of grouped projects. N/A	OK	OK
e. Have the sampling of a grouped project taken account of any sub groups and associated activities within each sub group?	VCS	5.6	Dagbasi HEPP is not a part of grouped projects. N/A	OK	OK
f. Do this project, which intends to apply for the VCS Program VCUs as part of a grouped project also comply with the VCS Program requirements for grouped projects, detailed in the most recent version of the Program Guidelines 2007.1 on www.v-c-s.org ?	VCS	5.6	Dagbasi HEPP is not a part of grouped projects. N/A	OK	OK
d. Content of the VCS PD					
a. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the VCS?	VCS	5.7	Latest version of VCS Version 3 template is used for the VCS PD. It is given in the web address www.v-c-s.org .	OK	OK
b. Is there a project title?	PD temp	1.1.	The project title is defined as “Dagbasi Hydroelectric Power Plant”.	OK	OK
c. Type/Category of the project	PD temp	1.2	Sectoral scope and project type described as; “According to the UNFCC rules, the project falls under ‘Sectorial Scope 1.Energy Industries Renewable sources. The proposed project consists of a single hydroelectric power plant and is not a grouped project activity.	OK	OK
i. Is it defined whether the project category is part of a GHG program that has been approved by the VCS Board?	PD temp	1.2	Please define the project category is part of a GHG program that has been approved by VCS board.	OK	OK
ii. Is it specified if the project is a Grouped project?	PD temp	1.2	Project is a single greenfield investment, not a part of a project group or bundle.	OK	OK
d. Is the amount of emission reductions over the crediting period estimated, including project size? (Micro project: Less than 5,000 tonnes CO2 equivalent emissions reductions per year; Mega Project: More than 1,000,000 tonnes CO2 equivalent emissions reductions per year)	PD temp	1.3	Amount of the emission reduction is estimated 211,475 tCO2 for the crediting period.	OK	OK
e. Is a brief description of the project provided?	PD temp	1.4	Brief description is given under section 1.1. Project location, expected electricity generation are defined under section 1.1. Please define project capacity regarding to installed capacity	CAR02	OK

		generator. Please also revise Emission reduction calculations regarding to revised project capacity. The requested revisions for project capacity is referenced from General Guidelines to SSC CDM methodologies (Version 17) 4 th article.(EB 61 Annex 21).		
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f. Is the project location, including geographic and physical information allowing the unique identification and delineation of the specific extent of the project, and including GPS project boundaries, provided?	PD temp	1.5	Dagbasi HEPP is located in the Mediterranean Region in Turkey. Project is in the boundary of the Anamur District of province of Mersin. Project site is about 45 km north of the center of Anamur District. GPS coordinates for the Dagbasi Weir and powerhouse is given in the VCS PD. Please add reference for the GPS coordinates.	CL01	OK
g. Duration of the project activity/crediting period	PD temp	1.6	<i>Please see below</i>		
i. Is the project start date, i.e., the date on which the project began reducing or removing GHG emissions*, provided?	PD temp	1.6	Expected project start date is provided as 01.04.2013.	OK	OK
ii. Is the crediting period start date, i.e., the date the first monitoring period commenced, provided? (VCS project crediting period: A maximum of ten years which may be renewed at most two times)	PD temp	1.6	The project crediting period is defined as 10 years renewable twice under section 1.6 of the VCS PD.	OK	OK
h. Are the conditions prior to project initiation provided?	PD temp	1.7	Please define all conditions prior to project initiation in the VCS PD under section 1.10	CL02	OK
i. Is a description of how the project will achieve GHG emission reductions and/or removal enhancements provided?	PD temp	1.8	Please add a description of how the project will achieve GHG emission reduction under section 1.8 "Description of the Project Activity"	CL03	OK
j. Are project technologies, products, services and the expected level of activity described?	PD temp	1.9	Project technologies are described under section 1.8 of the VCS PD. Please add reference for Table 1 "Technical Characteristics of Dagbasi HEPP".	CL04	OK
k. Does the VCS PD include identification of relevant local laws and regulations related to the project and demonstration of compliance with them?	PD temp	1.10	Relevant local laws and regulations related to the project and demonstration of compliance with them are added under section 1.11 of the VCS PD. References are not available, please revise the public available references.	CL05	OK
l. Are risks that may substantially affect the project's GHG emission reductions or removal enhancements identified?	PD temp	1.11	Dagbasi HEPP project received all necessary authorizations and/or approvals from the relevant entities of the Government of Turkey.	OK	OK
m. Is confirmation that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction demonstrated?	PD temp	1.12	The project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions.	OK	OK

n. Has the project created another form of environmental credit (for example renewable energy certificates)?	PD temp	1.13	The project has not created another form of environmental credit or renewable energy certificate.	OK	OK
o. If yes, has the proponent provided a letter from the program operator that the credit has not been used and has been cancelled from the relevant program?	PD temp	1.13	N.A	OK	OK
p. Was the project rejected under other GHG programs (if applicable)	PD temp	1.14	The project did not receive any rejection from any other GHG programs.	OK	OK
q. If yes, does the project:	PD temp	1.14	<i>Please see below</i>		
i. clearly state in its VCS PD all GHG programs for which the project has applied for credits and why the project was rejected? (Such information shall not be deemed commercially sensitive information)	PD temp	1.14	N.A	OK	OK
ii. provide the VCS verifier and Registry with the actual rejection document(s) including explanation?	PD temp	1.14	N.A	OK	OK
r. Are project proponents roles and responsibilities, including contact information of the project proponent, other project participants provided?	PD temp	1.15	Project proponents roles and responsibilities, including contact information of the project proponent is provided, also other entities involved in the project is provided in the VCS PD.	OK	OK
s. Is any information relevant for the eligibility of the project and quantification of emission reductions or removal enhancements, including legislative, technical, economic, sectoral, social, environmental, geographic, site-specific and temporal information provided?	PD temp	1.16	Dagbasi HEPP project received all necessary authorizations and/or approvals from the relevant entities of the Government of Turkey.	OK	OK
t. Is there any commercially sensitive information that has been excluded from the public version of the VCS PD that will be displayed on the VCS Project Database?	PD temp	1.17	The VCS PD is not web-hosted.	OK	OK
u. If yes, was it listed?	PD temp	1.17	The VCS PD is not web-hosted.	OK	OK
v. Are title and reference of the VCS methodology applied to the project activity and explanation of methodology choices provided?	PD temp	2.1	Title and reference of the VCS methodology applied to the project activity and explanation of methodology choices are provided under section 2.1 of the VCS PD.	OK	OK

w. Does the project use one of the VCS program approved project methodologies and provide information relevant to methodology deviations or methodology revisions?	PD temp	2.1	The project use in accordance with the approval small scale CDM-Methodology AMS-I.D: "Grid connected renewable electricity generation" (Version 17.0).	OK	OK
x. Are the choice of the methodology and its applicability to the project activity justified?	PD temp	2.2	Under section 2.2 the choice of the methodology and its applicability to the project activity has been provide.	OK	OK
y. Are GHG sources, sinks and reservoirs identified for the baseline scenario and for the project?	PD temp	2.3	GHG sources are defined according the methodology; AMS I.D Version 17.	OK	OK
z. Is it described how the baseline scenario is identified and the identified baseline scenario?	PD temp	2.4	Turkish national grid which is dominated by fossil-fired power plants is defined as baseline scenario.	OK	OK
aa. Has the project proponent selected the most reasonable baseline scenario for the project?	PD temp	2.4	Turkish national grid which is dominated by fossil-fired power plants is defined as baseline scenario.	OK	OK
bb. Does it reflect what most likely would have occurred in the absence of the project?	PD temp	2.4	Yes it is reflect what most likely would have occurred in the absence of the project.	OK	OK
cc. Is it described how the emissions of GHG by source in baseline scenario are reduced below those that would have occurred in the absence of the project activity (assessment and demonstration of additionality)?	PD temp	2.5	It is described how the emissions of GHG by source in baseline scenario are reduced below those that would have occurred in the absence of the project activity.	OK	OK
dd. Has the project proponent demonstrated, in the VCS PD, in addition to describing how the project meets the VCS methodology, that the project is additional based on one of the tests, the project test, the performance test, and technology test?	PD temp	2.5	Under the additionality section alternatives are defined, investment analysis and common practice analysis are applied.	OK	OK
ee. Are title and reference of the VCS methodology (which includes the monitoring requirements) applied to the project activity and explanation of methodology choices provided?	PD temp	3.1	Title and reference of the VCS methodology are applied to the project activity.	OK	OK
ff. Is monitoring, including estimation, modelling, measurement or calculation approaches describe including:	PD temp	3.2	<i>Please see below</i>		
i. Purpose of monitoring?	PD temp	3.2	The purpose of the project monitoring plan is to ensure a complete and accurate measurement of the net electricity that will be generated by the project activity.	OK	OK

ii. Types of data and information to be reported, including units of measurement?	PD temp	3.2	Net electricity generation is defined as the amount of electrical energy, referring to the difference between gross electricity generation and project's own internal electricity consumption. Multiplying the annual net electricity generation data with the CM emission factor provides the Dagbasi HEPP's annual emission CO2 reduction.	OK	OK
iii. Origin of the data?	PD temp	3.2	Please define the origin of data which will be used for the emission reduction calculation. Also please provide which data will be used for the cross-check under section 4.3 of the VCS PD.	CAR03	OK
iv. Monitoring, including estimation, modelling, measurement or calculation approaches?	PD temp	3.2	The process of validation and verification will be followed by Kilittasi Engineering. The annual emission reduction will be calculated by multiplying the CM emission factor by the net electricity generated.	OK	OK
v. Monitoring times and periods, considering the needs of intended users?	PD temp	3.2	The process of validation and verification will be followed by Kilittasi Engineering. The annual emission reduction will be calculated by multiplying the CM emission factor by the net electricity generated.	OK	OK
vi. Monitoring roles and responsibilities ?	PD temp	3.2	Dagbasi HEPP Plant manager will be responsible for the implementation of the monitoring plan and preparation of the monitoring report. Please add a role diagram that shows roles and responsibilities of the employees' of the project activity.	CAR04	OK
vii. Managing data quality?	PD temp	3.2	The data acquisition and management, and quality assurance procedures are in place as per the agreements with TEIAS and related regulations.	OK	OK
gg. Are data and parameters monitored/selecting relevant GHG sources, sinks and reservoirs for monitoring or estimating GHG emissions and removals described in the tabular form including:	PD temp	3.3	<i>Please see below</i>		
i. Data unit?	PD temp	3.3	It is included.	OK	OK

ii. Description?	PD temp	3.3	It is included.	OK	OK
iii. Source of data to be used?	PD temp	3.3	Official TEIAS data from the PMUM web site will be used for calculating EGy.	OK	OK
iv. Value of data applied for the purpose of calculating expected emissions reductions?	PD temp	3.3	Under section 4.2 of the VCS PD, please revise the value applied data through the feasibility report.	CL06	OK
v. Description of measurement methods and procedures to be applied?	PD temp	3.3	It is included.	OK	OK
vi. QA/QC procedures to be applied?	PD temp	3.3	Under section 4.2 please define cross-check process clearly.	CAR05	OK
vii. Any comment?	PD temp	3.3	It is included.	OK	OK
hh. Is the monitoring plan described?	PD temp	3.4	The monitoring plan is described under section 4.3 of the VCS PD.	OK	OK
ii. Are methodological choices explained?	PD temp	4.1	Methodological choices are defined under additionality section.	OK	OK
jj. Are GHG emissions and/or removals for the baseline scenario quantified?	PD temp	4.2	Baseline scenarios are defined under additionality section.	OK	OK
kk. Are GHG emissions and/or removals for the project quantified?	PD temp	4.3	GHG emission removals for the project are defined under additionality section.	OK	OK
ll. Are GHG emission reductions and removal enhancements for the GHG project quantified?	PD temp	4.4	GHG emission reductions and removal enhancements for the GHG project are quantified.	OK	OK
mm. Was a summary of environmental impact assessment, when such an assessment is required by applicable legislation or regulation, provided? ISO14064-2, 5.2.k	ISO 14064 -2	5.2.k	Project received EIA exemption on 12 January 2011 from the Ministry of Environment and Forestry due to that its environmental impact is minimal. The exemption letter indicates that "EIA is not required" for Dagbasi HEPP project. This letter is provided to validation team.	OK	OK
nn. Were relevant outcomes from stakeholder consultations and mechanisms for on-going communication provided?	PD temp	6	A stakeholder consultation meeting (LSC) was organized on October 14, 2011. Meeting was held at the Sugozi Primary Village located at the Sugozi village, which is the closest residential area to the project site.	OK	OK
oo. Were chronological plan for the date of initiating project activities, date of terminating the project,	PD temp	7	The project time line is not added to the VCS PD. The project timeline should be added under	CAR06	OK

frequency of monitoring and reporting and the project period, including relevant project activities in each step of the GHG project cycle provided?			section 2.5 of the VCS PD, with the references.		
pp. Was evidence of proof of title provided through one of the following:	PD temp	8.1	N.A	OK	OK
i. a right of use arising or granted under statute, regulation or decree by a competent authority?	PD temp	8.1	N.A	OK	OK
ii. a right of use arising under law?	PD temp	8.1	N.A	OK	OK
iii. a right of use arising by virtue of a property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals (where the right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use)?	PD temp	8.1	N.A	OK	OK
iv. a right of use arising by virtue of a property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions and/or removals (where such right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use)?	PD temp	8.1	N.A	OK	OK
v. an enforceable and irrevocable agreement with the holder of the property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals which vests the right of use in the project proponent?			N.A	OK	OK
vi. an enforceable and irrevocable agreement with the holder of the property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions or removals which vests the right of use in the project proponent?			N.A	OK	OK
qq. Does the project reduce GHG emissions from activities that participate in an emissions trading program, or take place in a jurisdiction or sector in which binding limits are established on GHG	PD temp	8.2	N.A	OK	OK

emissions?					
rr. If yes, have project proponents provided evidence that the reductions or removals generated by the project have or will not be used in the Program or jurisdiction for the purpose of demonstrating compliance, such as:	PD temp	8.2	N.A	OK	OK
i. a letter from the Program operator or designated national authority that emissions allowances (or other GHG credits used in the Program) equivalent to the reductions/removals generated by the project have been cancelled from the Program; or national cap as applicable?	PD temp	8.2	N.A	OK	OK
ii. purchase and cancellation of GHG allowances equivalent to the reductions/removals generated by the project related to the Program or national cap?	PD temp	8.2	N.A	OK	OK
e. Additionality					
a. Has the project proponent demonstrated that the project is additional using one of the following tests: Test 1 - The project test; Test 2 – Performance test; Test 3 – Technology test?	VCS	5.8	The additionality of the project activity has been demonstrated and assessed in accordance with the applied methodology.	OK	OK
b. If the project proponent used Test 1:	VCS	5.8	Please see below.		
i. Step 1 – Regulatory Surplus - Is the project mandated by any systematically enforced law, statute or other regulatory framework? Laws, statutes, regulatory frameworks or policies implemented since 11 November 2001 that give comparative advantage to less emissions-intensive technologies or activities relative to more emissions-intensive technologies or activities need not be taken into account. Laws, statutes, regulatory frameworks or policies implemented since 11 December 1997 that give comparative advantage to more emissions-intensive technologies or activities relative to less emissions-intensive technologies or activities shall not be taken into account. (If yes a CAR shall be issued and the project shall be deemed non additional).	VCS	5.8	N.A	OK	OK

ii. Step 2 – Implementation Barriers – Does the project face one (or more) distinct barrier(s) compared with barriers faced by alternative projects?	VCS	5.8	N.A	OK	OK
i. Investment Barrier – Does the project face capital or investment return constraints that can be overcome by the additional revenues associated with the generation of VCUs?	VCS	5.8	N.A	OK	OK
ii. Technological Barriers – Does the project face technology-related barriers to its implementation?	VCS	5.8	N.A	OK	OK
iii. Institutional barriers – Does the project face financial, organizational, cultural or social barriers that the VCU revenue stream can help overcome?	VCS	5.8	N.A	OK	OK
iii. Step 3 – Common Practice	VCS	5.8	<i>Please see below.</i>		
i. Is project type common practice in sector/region, compared with projects that have received no carbon finance?	VCS	5.8	The project compared with projects that have received no carbon finance.	OK	OK
ii. If it is common practice, have the project proponents identified barriers faced compared with existing projects?	VCS	5.8	The project proponents identified barriers faced compared with existing projects. EB 63 Annex 12 is applied for the common practice analysis. Please provide calculations transparently step by step through the EB 63 Annex 12. Define the Ndiff and Nall in the calculations.	CAR07	OK
iii. Is the demonstration that the project is not common practice based on guidance in the GHG Protocol for Project Accounting, Chapter 7?	VCS	5.8	Please see below.		
1. Was data on all baseline candidates within the geographic area collected?	GHG PROTOCOL	7.4.2 AND 7.6	N.A	OK	OK
2. Was a relative percentage for each different technology or practice calculated? (Common practice refers to the predominant technologies or practices in a given market, as determined by the degree to which those	GHG PROTOCOL	7.4.2 AND 7.6	N.A	OK	OK

technologies or practices have penetrated the market (defined by a specified geographic area). This percentage could be based on the number of plants or sites using each technology or practice, or could be weighted by the proportion of the total output for the market that is attributed to each technology or practice.)					
c. If the project proponent used Test 2:	VCS	5.8	Please see below		
i. Step 1 – Regulatory Surplus - Is the project mandated by any systematically enforced law, statute or other regulatory framework? Laws, statutes, regulatory frameworks or policies implemented since 11 November 2001 that give comparative advantage to less emissions-intensive technologies or activities relative to more emissions-intensive technologies or activities need not be taken into account. Laws, statutes, regulatory frameworks or policies implemented since 11 December 1997 that give comparative advantage to more emissions-intensive technologies or activities relative to less emissions-intensive technologies or activities shall not be taken into account. (If yes a CAR shall be issued and the project shall be deemed non additional).	VCS	5.8	N.A	OK	OK
ii. Step 2: Performance Standard	VCS	5.8	Please see below		
i. Are the emissions generated per unit output by the project below the level that has been approved by the VCS Program for the product, service, sector or industry, as the level defined to ensure that the project is not business-as-usual?	VCS	5.8	Under benchmark analysis Benchmark IRR is calculated.	OK	OK
ii. Are performance standard based additionality tests approved through the double approval process and by the	VCS	5.8	"Tool for the Demonstration and Assessment of Additionality, Version 6.0.0" is used for the Benchmark analysis.OK	OK	OK

VCS Board? (The list of approved performance standards is on www.v-c-s.org)					
d. If the project proponent used Test 3:	VCS	5.8	Please see below		
i. Step 1 – Regulatory Surplus - Is the project mandated by any systematically enforced law, statute or other regulatory framework? Laws, statutes, regulatory frameworks or policies implemented since 11 November 2001 that give comparative advantage to less emissions-intensive technologies or activities relative to more emissions-intensive technologies or activities need not be taken into account. Laws, statutes, regulatory frameworks or policies implemented since 11 December 1997 that give comparative advantage to more emissions-intensive technologies or activities shall not be taken into account. (If yes a CAR shall be issued and the project shall be deemed non additional).	VCS	5.8	N.A	OK	OK
ii. Step 2: Technology Additionality – Are the project and its location contained in the list of project types and applicable areas approved as being additional by the VCS Program? (The approved list is available on www.v-c-s.org)	VCS	5.8	N.A	OK	OK
f. Identifying GHG sources, sinks and reservoirs relevant to the project					
a. Refer to Clause 6, under Methodologies.	VCS	5.9	Refer to Clause 6, under Methodologies.	-	-
g. Determining the baseline scenario					
a. Has the project proponent selected the most conservative baseline scenario for the project, based on the requirements in the applicable VCS methodology?	VCS	5.10	The project proponent selected the most conservative baseline scenario for the project. AMS I.D “Grid connected renewable electricity generation Version 17.0 ”methodology defines the baseline scenario for the project activity which is the installation of a new grid-connected renewable power plan/unit.	OK	OK

b. Does the baseline scenario set out the geographic scope as applicable to the project?	VCS	5.10	In Dagbasi HEPP Project, baseline scenario covers the national electricity grid which is dominated by the fossil fuel fired power plants.	OK	OK
c. Has the project proponent selected or established criteria and procedures for identifying and assessing potential baseline scenarios considering the following:	ISO 14064 -2	5.4	<i>Please see below</i>		
i. The project description, including identified GHG sources, sinks and reservoirs;	ISO 14064 .2	5.4	The VCS PD covers project description, including identified GHG sources, sinks and reservoirs.	OK	OK
ii. Existing and alternative project types, activities and technologies providing equivalent type and level of activity of products or services to the project;	ISO 14064 -2	5.4	The VCS PD covers existing and alternative project types, activities and technologies providing equivalent type and level of activity of products or services to the project activity.	OK	OK
iii. Data availability, reliability and limitations;	ISO 14064 -2	5.4	Data availability, reliability and limitations are defined under baseline scenario.	OK	OK
iv. Other relevant information concerning present or future conditions, such as legislative, technical, economic, sociocultural, environmental, geographic, site-specific and temporal assumptions or projections.	ISO 14064 -2	5.4	It is included under Baseline section.	OK	OK
d. Has the project proponent demonstrated equivalence in type and level of activity of products or services provided between the project and the baseline scenario and has explained, as appropriate, any significant differences between the project and the baseline scenario ?	ISO 14064 .2	5.4	It is included to the VCS PD under section 2.4 "Baseline Scenario".	OK	OK
e. Has the project proponent selected or established, explained and applied criteria and procedures for identifying and justifying the baseline scenario?	ISO 14064 .2	5.4	It is included.	OK	OK
f. In developing the baseline scenario, has the project proponent selected the assumptions, values and procedures that help ensure that GHG emissions reductions or removal enhancements are not over-estimated?	ISO 14064 .2	5.4	It is included.	OK	OK
g. Has the project proponent selected or established, justified and applied criteria and procedures for demonstrating that the project results in GHG emissions reductions or removal enhancements that are additional to what would occur in the baseline scenario?	ISO 14064 .2	5.4	It is included.	OK	OK

h. Has the project participant demonstrated that the project has met all relevant regulations, legislation and project approvals (e.g. environmental permits)?	VCS	5.10	The project participant has demonstrated that the project has met all relevant regulations, legislation and project approvals.	OK	OK
h. Monitoring the GHG project					
a. Has the project proponent shall established and maintained criteria and procedures for obtaining, recording, compiling and analysing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project and baseline scenario (i.e. GHG information system)?	VCS	5.11	The major monitoring data is the net electricity delivered to the grid by the project activity. Electricity generation values of procedures, recordings, compiling and analyses are given in section 4.3 "Description of the Monitoring Plan".	OK	OK
b. Do the monitoring procedures include?	VCS	5.11	<i>Please see below</i>		
i. purpose of monitoring?	VCS	5.11	The purpose of Dagbasi HEPP monitoring plan is to ensure a complete and accurate measurement of the net electricity that will be generated by the project activity.	OK	OK
ii. types of data and information to be reported, including units of measurement?	VCS	5.11	Net electricity generation is defined as the amount of electrical energy, referring to the difference between gross electricity generation and project's own internal electricity consumption. Multiplying the annual net electricity generation data with the CM emission factor provides the Dagbasi HEPP's annual emission CO2 reduction.	OK	OK
iii. origin of the data?	VCS	5.11	Please define the origin of data which will be used for the emission reduction calculation. Also please provide which data will be used for the cross-check under section 4.3 of the VCS PD. Refer CAR03	CAR03	OK
iv. monitoring methodologies, including estimation, modelling, measurement or calculation approaches?	VCS	5.11	The process of validation and verification will be followed by Kilittasi Engineering. The annual emission reduction will be calculated by multiplying the CM emission factor by the net electricity generated.	OK	OK
v. monitoring times and periods, considering the needs of intended users?	VCS	5.11	The process of validation and verification will be followed by Kilittasi Engineering. The annual emission reduction will be calculated by multiplying the CM emission factor by the net electricity generated.	OK	OK

vi. monitoring roles and responsibilities?	VCS	5.11	Dagbasi HEPP Plant manager will be responsible for the implementation of the monitoring plan and preparation of the monitoring report. Please add a role diagram that shows roles and responsibilities of the employees' of the project activity. Refer CAR04	CAR04	OK
vii. GHG information management systems, including the location and retention of stored data?	VCS	5.11	All relevant data is recorded and kept by the project owner and will be presented to the DOE during verification.	OK	OK
c. Where measurement and monitoring equipment is used, does the project proponent ensure the equipment is calibrated according to current good practice?	VCS	5.11	The two power meters will be used in the interest of the emission reduction monitoring, but also paramount for the business relation between the plant operator and the electricity buyers. Calibration and maintenance of these power meters are performed by the TEIAS on a periodic basis which is conducted in accordance with the measure and metering devices regulation. Please provide the agreement between the TEIAS and project owner which includes calibration procedure rules.	CAR08	OK
d. Does the project proponent apply GHG monitoring criteria and procedures on a regular basis during project implementation?	VCS	5.11	The project proponent has applied GHG monitoring criteria and procedures on a regular basis during project implementation.	OK	OK
i. Monitoring reports for the GHG project					
a. Do monitoring reports include all the monitoring data, calculations, estimations, conversion factors and others standard factors as defined in the monitoring clause of the applied VCS Program methodology and set out in the VCS PD? (A list of VCS approved methodologies is available on www.v-c-s.org)	VCS	5.12	N.A	OK	OK
j. Records relating to the project					
a. Has the project proponent kept all documents and records in a secure and retrievable manner for at least two years after the end of the project crediting period.?	VCS	5.13	All monitoring data will be archived electronically and be kept at least for 2 years after the end of the last crediting period.	OK	OK

<i>k. Information to validator and verifier</i>					
a. Has the project proponent made available to the validator the VCS PD, proof of title and any requested supporting information and data needed to evidence statements and data in the VCS PD and proof of title?	VCS	5.14	Project proponent made available to the validator the VCS PD, proof of title and any requested supporting information and data needed to evidence statements and data in the VCS PD and proof of title.	OK	OK
b. Has the project proponent made the VCS PD and validation report available to the verifiers as well as a monitoring report applicable to the period of monitoring and any requested supporting information and data needed to evidence statements and data in the monitoring report?	VCS	5.14	Project proponent made the VCS PD and validation report available to the verifiers. Monitoring report will be applicable in monitoring period. This is defined in monitoring plan.	OK	OK

Table 1 Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (Version 01.2) and methodology AMS I.D (version 17) - “Grid connected renewable electricity generation”

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			COUNTRY A (India)	COUNTRY B (Not applicable)		
a. Have all Parties involved approved the project activity?	VVM	44	Turkey has ratified the Kyoto Protocol however not set any emission reduction target; hence, it is not listed as an Annex B country of the Kyoto Protocol and will not be a host for Clean Development Mechanism (CDM) or Joint Implementation (JI) projects until the end of 2012, because of its particular situation. There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
b. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participatn or directly from the DNA)	VVM	45	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
c. Does the letter of approval from DNA of each Party involved:	VVM	45	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
ii. confirm that participation is voluntary?	VVM	45.b	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation?	VVM	47	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
g. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	There is no DNA in Turkey. Hence, the checklist question is N/A.		OK	OK
2. Participation			<i>PP1 (Name of PP1)</i>	<i>PP2 (Name of PP2)</i>		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	The project is not developed under compliance markets. Therefore the checklist question is N/A.		OK	OK
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	The project is not developed under compliance markets. Therefore the checklist question is N/A.		OK	OK
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	The project is not developed under compliance markets. Therefore the checklist question is N/A.		OK	OK
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	The project is not developed under compliance markets. Therefore the checklist question is N/A.		OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	The project is not developed under compliance markets. Therefore the checklist question is N/A.	OK	OK
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	The project is not developed under compliance markets. Therefore the checklist question is N/A.	OK	OK
g. Has the approval of participation issued from the relevant DNA?	VVM	53	The project is not developed under compliance markets. Therefore the checklist question is N/A.	OK	OK
h. Is there doubt with respect to (g) above? L	VVM	53	The project is not developed under compliance markets. Therefore the checklist question is N/A.	OK	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	The project is not developed under compliance markets. Therefore the checklist question is N/A.	OK	OK
3. Project desing document					
a. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website?	VVM	55	The project activity is developed under Voluntary Carbon Standard Version 03 and the latest VCS Project Description Template Version 03 is used.	OK	OK
b. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	The VCS PD is accordance with the "VCS Project Description Template – v3.0".	OK	OK
c. In CDM-SSC-PDD section A.1 are following provided?	EB 34	Ann 09	<i>Please see below</i>		
i. Title of project	EB 34	Ann 09	The title of the project is given at the cover page of the VCS PD Version as following: "Dagbasi Hydroelectric Power Plant".	OK	OK
ii. Current version number and date of document	EB 34	Ann 09	The version number is 01 and date of issue is 15 June 2012.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
d. In CDM-SSC-PDD section A.2 are following provided (max. one page)?	EB 34	Ann 09	<i>Please see below</i>		
i. A brief description of the project activity covering purpose which includes the scenario existing prior to the start of project, present scenario and baseline.	EB 34	Ann 09	A brief description of the project activity is defined under section 1.1 of the VCS PD. Please provide following matters under the Summary Description of the Project; - The second reference under the Summary Description of the Project is the water usage agreement with DSI. Please provide the Water Usage Agreement with DSI to the validation team. - The project capacity is defined as 10.75 MW and 3 turbines are defined. Please define the capacity through the feasibility report, define the turbines capacities correctly. - Please define the annual electricity generation through the approved feasibility report; also correct the related section through the revised annual electricity generation. - Please define the project capacity regarding to installed capacity generator. The requested revision for project capacity is referenced from General Guidelines to SSC CDM methodologies (Version 17) 4th Article. (EB 61 Annex 21). - Please revise the capacity units by MWe. - Please define the estimated annual emission reduction.	CAR09	OK
ii. Explanation how the GHG emission reductions are effected.	EB 34	Ann 09	It is defined under section 1.1 of the VCS PD. Dagbasi HEPP, as a renewable type energy generation project, will contribute to global CO2 emission reduction efforts. Project will replace the same amount of CO2 emissions which would have been, otherwise, released by fossil fired power plants.	OK	OK
iii. The PP's view on the contribution of project activity to sustainable development.	EB 34	Ann 09	The project is environmentally friendly, will have social benefits to local life, creating direct and indirect employment opportunities in the region.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iv. Are there any changes/modifications compared to the webhosted PDD?	EB 34	Ann 09	The proposed project activity is developed under the VCS Version 03. Therefore, the VCS PD is not webhosted.	OK	OK
e. In CDM-SSC-PDD section A.3 are following provided in the tabular format?	EB 34	Ann 09	<i>Please see below.</i>		
i. List of project participants and Party(ies)	EB 34	Ann 09	Project proponent is defined under section 1.3. ALPEREN Elektrik Uretim A.S is defined as project proponent.	OK	OK
ii. Identification of host party	EB 34	Ann 09	N.A	OK	OK
iii. Indication whether the Party wishes to be considered as project participant	EB 34	Ann 09	N.A	OK	OK
f. In CDM-SSC-PDD section A.4.1 are following provided?	EB 34	Ann 09	<i>Please see below.</i>		
i. Technical description, location, host party(ies) and address as required?	EB 34	Ann 09	The technical description of the project activity is given under section 1.8 of the VCS PD and the location of the project activity is defined under section 1.9 of the VCS PD. Project lifetime is defined as 49 years please add reference. Also please add reference for the Table 1: "Technical Characteristics of Dagbasi HEPP" under section 1.8 of the VCS PD. The project is located in the Mediterranean Region in Turkey. Project is in the boundary of the Anamur District of Province Mersin. Please provide the coordinates through the references under section 1.9 of the VCS PD.	CAR10	OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 34	Ann 09	Please see CAR10	CAR10	OK
g. In CDM-SSC-PDD section A.4.2 are following provided	EB 34	Ann 09	<i>Please see below</i>		
i. the list of categories of project activities as per the latest categorization of Appendix B to the simplified modalities and procedures for small-scale CDM project activities, hereafter referred to	EB 34	Ann 09	The project activity is in scope 1: "Energy Industries – Renewable Sources" as defined in section 1.2 of the VCS PD.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
as Appendix B. (refer http://cdm.unfccc.int/methodologies/SSCmethodologies)					
ii. A description of how environmentally safe and sound technology and know how is being applied by the project activity interalia technology transfer to the Host Party(ies) for application in the project activity	EB 34	Ann 09	Please define how environmentally safe and sound technology, and know-hoe, is transferred to the Host Party(ies) under section 1.8 (Description of the project activity).	CAR11	OK
h. In CDM-SSC-PDD section A.4.3 is the estimation of emission reductions provided, as requested, in a tabular format?	EB 34	Ann 09	The estimation of the emission reductions are given in a tabular format under section 1.7 of the VCS PD. Please clarify the emission reduction values through the revised annual electricity generation under section 1.7 and excel calculation sheet.	CL07	OK
i. In CDM-SSC-PDD section A.4.4 is information regarding Public funding provided?	EB 34	Ann 09	The project does not obtain public funding.	OK	OK
j. In CDM-SSC-PDD section A.4.5 are following provided?	EB 34	Ann 09	<i>Please see below</i>		
i. Confirmation that the small-scale project activity is not a debundled component of a large scale project activity.	EB 34	Ann 09	Dagbasi HEPP is a small scale renewable type energy generation project with installed capacity of 10.75 MW; and it will, in the future, remain below the eligibility limit of 15 MW for renewable type small scale CDM projects as well. This definition will accepted through the correct capacity is defined.	CL08	OK
ii. Indication ir there is a registered small-scale project activity under the CDM or an application to register another small-scale project activity under the CDM	EB 34	Ann 09	<i>Please see below</i>		
a. With the same project participants	EB 34	Ann 09	There is no registered small-scale project activity or an application to register another small-scale project activity, which has same project participants.	OK	OK
b. Registered within the period of 2 years	EB 34	Ann 09	The project will be registered with in the period of 2 years.	OK	OK
c. Whose project boundary is within 1 km of the project boundary of the proposed small-scale activity under the CDM at the closest point.	EB 34	Ann 09	There is not a small-scale activity under the CDM at the closest point within 1 km of the project boundary.	OK	OK
iii. Are there any changes/modifications compared to the webhosted PDD?	EB 34	Ann 09	The proposed project activity is developed under the VCS Version 03. Therefore, the VCS PD is not	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
k. In CDM-SSC-PDD section B.1 is the approved baseline and monitoring methodology and version no provided?	EB 34	Ann 09	webhosted. The baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board. The VCS PD and related documents were provided to DOE on 15/06/2012 and the version of selected methodology and tools are valid at this time. The selected methodology and tools as follows: • AMS-I.D. "Grid Connected Renewable Electricity Generation", Version 17.0 • "Tool to calculate the emission factor for an electricity system", Version 2.2.1 • "Tool for the demonstration and assessment of additionality", Version 6.0.0	OK	OK
l. In CDM-SSC-PDD section B.2 are the following provided?	EB 34	Ann 09	Please see below		
i. Justification of the choice of project activity and category?	EB 34	Ann 09	The applicability conditions are given under section 2.2 of the VCS PD.	OK	OK
ii. Demonstration that the project activity qualifies as a small-scale project activity and that it will remain under the limits of small-scale project activity types during every year of the crediting period as per the following: For Type I : the capacity of the proposed project activity will not exceed 15 MW (or an appropriate equivalent); For Type II: the annual energy savings on account of efficiency improvements will not exceed 60 GWh (or an appropriate equivalent) in any year of the crediting period; For Type III: the estimated emission reductions of the project activity will not exceed 60 ktCO ₂ e in any year of the crediting period.	EB 34	Ann 09	Type I is used and described in the VCS PD.	OK	OK
m. In CDM-SSC-PDD section B.3 is the project boundary of the project activity, based on the guidance of the applicable project category, provided?	EB 34	Ann 09	Project boundary is defined through the AMS I.D version 17 within tabular format.	OK	OK
n. In CDM-SSC-PDD Section B.4 are following provided?	EB 34	Ann 09	Please see below		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. The baseline for the proposed project activity with reference to the chosen project category.	EB 34	Ann 09	The baseline scenario is identified in the section 2.4 of the VCS PD. According to AMS I.D (Version 17), if the project activity is an installation of a new grid-connected renewable power plant, the baseline scenario is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants which are mainly fired fossil fuel.	OK	OK
ii. Justification of key assumptions and rationales	EB 34	Ann 09	The selected baseline scenario is the only option for the project activity. Therefore, there is no explanation and justification key assumptions and rationale.	OK	OK
iii. Transparent illustration of all data used to determine the baseline emissions (variables, parameters, data sources etc)	EB 34	Ann 09	The selected baseline scenario is the only option for the project activity. Please provide the references clearly. GHG emission share of thermal power generation is defined as %75 in 2009 in 22 nd reference. This reference is not available please clarify.	CL09	OK
iv. Are there any changes/modifications compared to the webhosted PDD?	EB 34	Ann 09	The proposed project activity is developed under the VCS Version 03. Therefore, the VCS PD is not webhosted.	OK	OK
o. In CDM-SSC-PDD section B.5 are following provided?	EB 34	Ann 09	<i>Please see below</i>		
i. Explanation that the proposed project activity is additional as per options provided under Attachment A to Appendix B of the simplified modalities and procedures for small-scale CDM project activities.	EB 34	Ann 09	Explanations have been added.	OK	OK
ii. National policies and circumstances relevant to the baseline of the proposed project activity	EB 34	Ann 09	National policies and circumstances relevant to the baseline of the proposed project activity are defined under section 2.4 and 2.5 of the VCS PD.	OK	OK
iii. Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation. (this is part of the large scale project guidelines. It is better to be retained)	EB 34	Ann 09	Please add the project timeline under section 2.5 and please provide objective evidence to prove that the incentive from the VER was seriously considered in the decision to proceed with the project activity.	CAR12	OK
p. In CDM-SSC-PDD section B.6.1 are following provided?	EB 34	Ann 09	<i>Please see below</i>		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(i) Explanation on how the procedures, in the approved project category to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity.	EB 34	Ann 09	Explanations are described under section 3 of the VCS PD.	OK	OK
(ii) Clearly stating of which equations will be used in calculating emission reductions.	EB 34	Ann 09	Equations which is used in calculating emission reductions have defined under section 3 of the VCS PD.	OK	OK
(iii) Explanation and justification of all relevant methodological choices, including: where the category provides different options to choose from; where the category provides for different default values.	EB 34	Ann 09	The explanation and justification for all relevant methodological choices, including different options and default values are provided under section 3 of the VCS PD.	OK	OK
q. In CDM-SSC-PDD section B.6.2 are following provided?	EB 34	Ann 09	<i>Please see below</i>		
i. A compilation of information on the data and parameters that are not monitored but determined upfront so as to be available for validation.	EB 34	Ann 09	A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period and that are available when validation is undertaken is given under section 4.1 of the VCS PD. Please add the EFgrid,CM,y parameter to section 4.1 of the VCS PD.	CAR13	OK
ii. The actual value applied.	EB 34	Ann 09	Value applied of the parameters is given in tabular format under section 4.1 of the VCS PD.	OK	OK
iii. Explanation and justification for the choice of the source of data.	EB 34	Ann 09	The choice of the source of data is explained and justified under section 4.1 of the VCS PD.	OK	OK
iv. Clear and transparent references or additional documentation in Annex 3.	EB 34	Ann 09	References are given under section 4.1. Please provide references clearly.	CL10	OK
v. Where values have been measured, a description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results.	EB 34	Ann 09	The values used in the calculations are not measured.	OK	OK
r. In CDM-SSC-PDD section B.6.3 are following provided?	EB 34	Ann 09	<i>Please see below</i>		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. A transparent ex ante calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology.	EB 34	Ann 09	The ex-ante calculation of emission reductions, applying all relevant equations provided in the approved methodology is given clearly under section 3 of the VCS PD. Please revise the emission reduction calculation sheet through the revised annual electricity generation and please add Summary of GHG Emission reductions and removals table to the excel calculation sheet.	CAR14	OK
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 34	Ann 09	The documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation is provided under section 3 of the VCS PD.	OK	OK
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 34	Ann 09	References are given under section 4.1. Please provide references clearly. Refer CL10.	CL10	OK
iv. Emission reduction calculations for each component are provided separately if more than one component activity is applied	EB 34	Ann 09	It is provided	OK	OK
s. In CDM-SSC-PDD section B.6.4 are the results of the ex ante estimation of emission reductions for all years of the crediting period, in a tabular format, provided?	EB 34	Ann 09	The estimation of the emission reductions are given in a tabular format under section 3.4 of the VCS PD.	OK	OK
t. In CDM-SSC-PDD section B.7.1 are following provided?	EB 34	Ann 09	<i>Please see below</i>		
i. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	EB 34	Ann 09	The specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity is provided under 4.2 of the VCS PD.	OK	OK
ii. For each below parameter the following information, using the table provided:	EB 34	Ann 09	<i>Please see below</i>		
a. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and justify which data sources should be preferred	EB 34	Ann 09	The $EG_{\text{facility},y}$ will be monitored through the PMUM website.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
b. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.	EB 34	Ann 09	The electricity generation will be measured by TEIAS-approved power meters located at the grid interface (TEIAS substation). Please provide following matters; 1) Please provide the cross check process under QA/QC procedures. 2) Please correct the "Value Applied" parameter through the approved feasibility report. 3) Please define which parameter will be used for the monitoring electricity generation clearly. 4) Please add CApj and APj parameters under section 4.2 of the VCS PD in tabular format.	CAR14	OK
iii. A detailed description of the monitoring plan.	EB 34	Ann 09	Monitoring plan is described under section 4.3 of the VCS PD.	OK	OK
a. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity	EB 34	Ann 09	The organizational structure, responsibilities of the monitoring plan is identified under section 4.3 of the VCS PD.	OK	OK
b. The responsibilities for and institutional arrangements for data collection and archiving	EB 34	Ann 09	The methods for generating, recording, storing, aggregating, collating and reporting data on monitored parameters are described under section 4.3 of the VCS PD. Please define the date which will be used for the monitoring net electricity and cross-check process.	CAR15	OK
c. Does the monitoring plan reflect good monitoring practice appropriate to the type of project activity	EB 34	Ann 09	The monitoring plan reflects good monitoring practice appropriate to the type of project activity.	OK	OK
d. Relevant further background information in Annex 4	EB 34	Ann 09	The detail of the monitoring plan is given in section 4.3 of the VCS PD.	OK	OK
u. In CDM-SSC-PDD section B.8 are following provided	EB 34	Ann 09	<i>Please see below</i>		OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY.	EB 34	Ann 09	The version number of the VCS PD is 01 and the date of issue is 15/06/2012.	OK	OK
ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity	EB 34	Ann 09	The contact information of the carbon consultant (Kilittasi Engineering Consulting & Construction Co.) responsible for the application of the baseline and monitoring methodology to the project activity is given under section 1.4 of the VCS PD.	OK	OK
iii. Indicated if the person/entity is also a project participant listed in Annex 1	EB 34	Ann 09	The carbon consultant (Kilittasi Engineering Consulting & Construction Co.) is not listed as a project participant.	OK	OK
v. In CDM-SSC-PDD section C.1.1 are following provided?	EB 34	Ann 09	<i>Please see below</i>		
i. The starting date of a CDM project activity is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)	EB 34	Ann 09	Please provide the project timeline under section 2.5 and please provide the starting project activity date by objective evidences.	CAR15	OK
ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 34	Ann 09	Investment decision date is still not provided. Refer CAR15	CAR15	OK
iii. If this starting date is earlier than the date of publication of the CDM-SSC-PDD for global stakeholder consultation by a DOE, does Section B.5 above contain a description of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 68).? (though this is in guideline for large scale projects, it is advisable to maintain this for small scale projects as well)	EB 34	Ann 09	The proposed project activity is developed under VCS. The VCS PD is not made public available according to the VCS rules. Therefore, this checklist question is N/A.	OK	OK
w. In CDM-SSC-PDD section C.1.2 is the expected operational lifetime of the project activity in years and months provided?	EB 34	Ann 09	Under section 1.8 the project lifetime is defined as 49 years. Please add reference for the project lifetime.	CL11	OK
x. In CDM-SSC-PDD section C.2 is it stated whether the project activity will use a renewable or a fixed crediting period and completed C.2.1 or C.2.2 accordingly?	EB 34	Ann 09	It is indicated under section 1.6 of the VCS PD that project activity will use a renewable crediting period.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
y. In CDM-SSC-PDD section C.2.1 is it indicated that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable?	EB 34	Ann 09	The crediting period is defined as 10 years in line with the VCS rules and with an option to be renewed 2 times.	OK	OK
z. In CDM-SSC-PDD section C.2.1.1 are the dates in the following format: (DD/MM/YYYY) provided?	EB 34	Ann 09	The estimated project start date is given as 01.04.2013	OK	OK
aa. In CDM-SSC-PDD section C.2.1.2 is the length of the first crediting period in years and months?	EB 34	Ann 09	The length of the first crediting period is defined as 10 years in line with the VCS rules. Please define the crediting period in years and months.	CL11	OK
bb. In CDM-SSC-PDD section C.2.2 is it indicated fixed crediting period at most ten (10) years	EB 34	Ann 09	Renewable crediting period is selected for the project activity. Therefore, this checklist question is N/A.	OK	OK
cc. In CDM-SSC-PDD section C.2.2.1 are the dates in the format (DD/MM/YYYY) provided?	EB 34	Ann 09	Renewable crediting period is selected for the project activity. Therefore, this checklist question is N/A.	OK	OK
dd. In CDM-SSC-PDD section C.2.2.2 is the length of the crediting period in years and months provided?	EB 34	Ann 09	Renewable crediting period is selected for the project activity. Therefore, this checklist question is N/A.	OK	OK
ee. In CDM-SSC-PDD section D.1 is the documentation on the analysis of the environmental impacts, if required by Host Party, provided?	EB 34	Ann 09	The "EIA not required certificate" for Dagbası Hydroelectric Power Plant 12/01/2011 is provided to DOE.	OK	OK
ff. In CDM-SSC-PDD section E.1 are following provided?	EB 34	Ann 09	<i>Please see below</i>		
i. The process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted	EB 34	Ann 09	The project activity is developed under VCS rules and VCS does not require stakeholder meeting. Stakeholders comments are given under section 6 of the VCS PD.	OK	OK
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account	EB 34	Ann 09	N.A	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
confidentiality provisions of the CDM modalities and procedures					
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation	EB 34	Ann 09	N.A	OK	OK
gg. In CDM-SSC-PDD section E.2 are following provided?	EB 34	Ann 09	<i>Please see below</i>		OK
i. Local stakeholders that have made comments identified.	EB 34	Ann 09	N.A	OK	OK
ii. A summary of these comments	EB 34	Ann 09	N.A	OK	OK
hh. In CDM-SSC-PDD section E.3 is and explanation of how due account have been taken of comments received from local stakeholders provided?	EB 34	Ann 09	N.A	OK	OK
ii. In CDM-SSC-PDD Annex 1 are following provided?	EB 34	Ann 09	<i>Please see below</i>		
i. Contact information of project participants	EB 34	Ann 09	The project proponents are identified as "Alperen Elektrik Uretim A.S." under section 1.3 of the VCS PD.	OK	OK
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB 34	Ann 09	The contact information is given in tabular format for each organization under section 1.3 and 1.4 of the VCS PD.	OK	OK
jj. In CDM-SSC-PDD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided?	EB 34	Ann 09	The project activity is developed under VCS, therefore the checklist question is N/A.	OK	OK
kk. In CDM-SSC-PDD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 34	Ann 09	In Annex III please provide references clearly.	CL12	OK
ll. In CDM-SSC-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 34	Ann 09	The details of the monitoring plan is given in section 4.3 of the VCS PD.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
4. Project description					
a. Does the PDD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	The project is a run-of river type power generating plant that will be constructed on the Sugozi Stream between the elevations of 510 m and 383.5 m. Please define the project capacity, units capacity, annual electricity generation and estimated annual emission reduction under section 1.1 by objective evidences.	CAR16	OK
b. Is the description of the proposed CDM project activity as contained in the PDD:	VVM	59	<i>Please see below</i>		
i. sufficiently covering all relevant elements?	VVM	59	The project activity consists three horizontal axis Francis turbines. It is not line with the feasibility report. Please define the elements through the feasibility report which is approved by DSI, or please provide the approval request for the revised feasibility report which defines the project elements correctly.	CAR17	OK
ii. accurate?	VVM	59	Refer CAR17	CAR17	OK
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	The description of the proposed project activity as contained in the VCS PD provides the reader with a clear understanding of the nature of the proposed CDM project activity.	OK	OK
iv. Are there any changes/modifications compared to the webhosted PDD?	VVM	59	The proposed project activity is developed under the VCS Version 03. Therefore, the VCS PD is not webhosted.	OK	OK
c. Is the proposed CDM project activity in existing facilities or or utilizing existing equipments?	VVM	60	The proposed project activity is neither in existing facilities nor in utilizing existing equipments. The project activity is a greenfield project. During the site visit, it was confirmed that project activity is a greenfield project.	OK	OK
d. Is the CDM project activity one of the following types:	VVM	60	<i>Please see below</i>		
i. Large scale?	VVM	60	The project is a small-scale renewable type energy generation project.	OK	OK
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	The project is a small-scale renewable type energy generation project.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	The project is a small-scale renewable type energy generation project.	OK	OK
e. If yes to (c) and (d) above, was a physical site inspection conducted to confirm that the description in the PDD reflects the proposed CDM project activity, unless other means are specified in the methodology?	VVM	60	A physical site visit was conducted on 31/10/2012 and 01/11/2012.	OK	OK
f. If yes to (d.iii) above, was the number of physical site visits based on sampling?	VVM	60	A physical site visit was conducted on 31/10/2012 and 01/11/2012.	OK	OK
g. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	N.A	OK	OK
h. For other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	61	N.A	OK	OK
i. For all other proposed CDM project activities not referred to in paragraphs 59 – 61, was a physical site inspection conducted?	VVM	62	N.A	OK	OK
j. If no, was it appropriately justified?	VVM	62	N.A	OK	OK
k. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	The proposed project activity does not involve the alteration of an existing installation or process. The project activity is a new built project as validated through the site visit.	OK	OK
l. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	The proposed project activity does not involve the alteration of an existing installation or process. Therefore, the checklist question is N/A.	OK	OK
5. Baseline and monitoring methodology					
a. General requirement					
l. Do the the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	The selected methodology and tools as follows: - AMS I.D “ Grid connected renewable electricity generation”, Version 17.0 “Tool to calculate emission factor of an electricity system”, Version 02.2.1	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			“Tool for the demonstration and assessment of additionally”, Version 06.0.0		
m. Is the selected methodology applicable to the project activity?	VVM	66	The justification of the choice of methodology is given under section 2.2 of the VCS PD	OK	OK
n. Had the PP correctly applied the selected methodology?	VVM	66	This checklist question will be answered after the CARs/CLs regarding the application of the methodology are closed.	OK	OK
o. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Project boundary is given correctly under section 2.3 of the VCS PD for baseline and project activity through the AMS I.D Version 17.	OK	OK
p. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	According to AMS I.D (Version 17), if the project activity is an installation of a new grid-connected renewable power plant, the baseline scenario is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants which are mainly fired fossil fuel.	OK	OK
q. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	This checklist question will be answered after the CARs/CLs regarding the application of the methodology are closed.	OK	OK
r. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	This checklist question will be answered after the CARs/CLs regarding the application of the methodology are closed.	OK	OK
i. Has the general guidance to the small scale CDM methodologies, information on additionality (attachment A to appendix B) been applied correctly?	AMS	I D	The additionality of the project activity has been demonstrated and assessed using “Tool for the demonstration and assessment of additionality” version 06.0 that is the latest version of the tool.	OK	OK
s. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	This checklist question will be answered after the CARs/CLs regarding the application of the methodology are closed.	OK	OK
b. Applicability of the selected methodology to the project activity					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity including that the used version is valid?	VVM	68	"AMS I.D," Grid connected renewable electricity generation Version 17.0" is applied in the VCS PD that is the latest version of the methodology.	OK	OK
b. Has the DOE applied specific guidance provided by the CDM Executive Board in respect to the applicable approved methodology?	VVM	69	The applicability conditions of the methodology was validated through the AMS I.D "Grid connected electricity generation Version 17.0"	OK	OK
c. Is the methodology correctly quoted?	VVM	70	The applicability conditions of the methodology are given in line with the AMS I.D under section 2.2 of the VCS PD.	OK	OK
d. Are the applicability conditions of the methodology met?	VVM	71	<i>Please see below</i>		
a. Does the project activity comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass that supply electricity to a national or a regional grid? Note: Project activities that displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit shall apply AMS-I.F.	AMS	I D	The project is an installation a new run-of river hydro power plant where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant).	OK	OK
b. Has the project participant provided justification in line with the applicability of methodology with respect to Table 2 of approved methodology ?	AMS	I D	<i>Please see below</i>		
c. Does the project activity i. install a new power plant at site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant); ii. involve a capacity addition iii. involve a retrofit of (an) existing plant(s) or iv. involve a replacement of (an) existing plant(s)	AMS	I D	Applicability conditions are defined through the methodology.	OK	OK
d. For Hydro power plants with reservoirs, does it satisfy at least one of the following conditions (a) the project activity is implemented in an existing reservoir with no change in the volume of	AMS	I D	The reservoir area of the project activity is defined as 2800 m2. Please provide the reservoir area by objective evidences. On the other hand please also provide power density calculation transparently under	CAR18	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
reservoir (b) the project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, is greater than 4 W/m ² (c) the project activity results in new reservoirs and the power density of the power plant is greater than 4 W/m ² .			section 2.2 of the VCS PD.		
e. Is the following guideline followed: (a) If the new unit has both renewable and non-renewable components (eg., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. (b) If the new unit co-fires fossil fuels, the capacity of the entire unit shall not exceed the limit of 15 MW.	AMS	I D	The project activity is a new hydro power plant which has not non-renewable components or co-fires units.	OK	OK
f. Is the following guideline followed: Combined heat and power (co-generation) systems are not eligible under this category	AMS	I D	The project activity is not a combined heat and power system which is a hydro power plant. Hence, the checklist question is N/A.	OK	OK
g. Is the following guideline followed: In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing	AMS	I D	The project activity is new run-of river hydro power generation units hence, the checklist question is N/A.	OK	OK
h. Is the following guideline followed: In the case of retrofit or replacement, to qualify as a small-scale project, the total output of the retrofitted or replacement unit shall not exceed the limit of 15 MW.	AMS	I D	The project activity is new run-of river hydro power generation units hence, the checklist question is N/A.	OK	OK
e. Is the project activity expected to result in emissions other than those allowed by the methodology?	VVM	71	Refer CAR14	CAR14	OK
f. Is the choice of the methodology justified?	VVM	71	The choice of methodology is justified under section 2.1 of the VCS PD.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
g. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	71	Refer to above	OK	OK
h. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	71	Refer to above	OK	OK
i. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	71	The comparable information is not available from sources other than that used in the VCS PD.	OK	OK
j. If yes, was the PDD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	71	The comparable information is not available from source other than that used in the VCS PD. Hence, this checklist question is N/A.	OK	OK
k. Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	72	A determination regarding the applicability of selected methodology to the proposed CDM project activity can be made.	OK	OK
l. If no, clarification of the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	A determination regarding the applicability of the selected methodology to the proposed CDM project activity can be made and the applicability conditions of the methodology are met. Hence, this checklist question is N/A.	OK	OK
m. If answer to (5.b.c) above is “no”, revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	73	N.A	OK	OK
n. If yes to (5.b.k) and (5.b.l) above, a request for registration was submitted before the CDM Executive Board has approved the proposed deviation or revision?	VVM	74	N.A	OK	OK
c. Project boundary					
c. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity?	VVM	78	The detailed information on the project location, including geographic and physical information allowing the unique identification and delineation of the specific extent of the project are provided under section 1.9 of the VCS PD. Project boundary is given correctly under section 2.3 of the VCS PD.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Does the physical, geographical site of the renewable generation?	AMS	I D	The physical, geographical site of the renewable generation source delineates the project boundary.	OK	OK
d. Is the delineation in the PDD of the project boundary correct and include identification of all locations, processes and equipment including secondary equipment and associated processes such as logistics etc.?	VVM	79	The delineation in the VCS PD of the project boundary is correct and includes identification of all locations.	OK	OK
e. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	79	The delineation given in the PDD of the project boundary meets the requirements of the selected baseline.	OK	OK
f. Have changes been made to the project boundary in comparison to the webhosted PDD. If yes please comment on the reason for the changes.	VVM	79	The proposed project activity is developed under the VCS Version 03. Therefore, the VCS PD is not webhosted.	OK	OK
g. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	79	All sources and GHGs required by the methodology have been included within the project boundary. Under section 2.3	OK	OK
h. Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary?	VVM	79	The methodology does not allow project participant to choose whether a source or gas is to be included within the project boundary for the baseline emissions.	OK	OK
i. If yes, have the project participants justified that choice?	VVM	79	N.A	OK	OK
j. If yes, is the justification provided reasonable? (provide reference to the supporting documented evidence provided by the project participants)	VVM	79	N.A	OK	OK
d. Baseline identification					
a. Does the PDD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	81	The baseline scenario is identified in the section 2.4 of the VCS PD. Baseline scenario identified according to AMS I.D (Version 17), if the project is an installation of a new grid-connected renewable power plant, the baseline scenario is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants which are mainly fired fossil fuel.	OK	OK
b. Has any procedure contained in the methodology to	VVM	82	The project activity is the installation of a new grid-	OK	

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
identify the most reasonable baseline scenario, been correctly applied?			connected renewable power plant. Only one applicable baseline scenario has been identified for the new grid-connected renewable power plant in the methodology. Hence the checklist question is N/A.		
i. Is the following guideline followed: Is the project activity new grid-connected renewable power plant/unit and hence the baseline scenario is the electricity delivered to the grid by the project activity that otherwise would have been generated by the operation of grid-connected power plants and by the addition of new generation sources.	AMS	I.D	The baseline scenario is defined as the consolidation of electricity delivered to the grid by the project activity and electricity generated by the operation of grid-connected power plants.	OK	OK
ii. Is the baseline emissions calculated as the product of electrical energy baseline $EG_{BL,y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission $BE_y = EG_{BL,y} * EF_{CO2grid,y}$	AMS	I.D	The baseline emissions are calculated as $BE_y = EG_{BL,y} * EF_{CO2grid,y}$	OK	OK
iii. Is the Emission Factor calculated in a transparent and conservative manner as follows: (a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the Tool to calculate the Emission Factor for an electricity system.. OR (b) The weighted average emissions (in t CO ₂ /MWh) of the current generation mix. The data of the year in which project generation occurs must be used. Calculations shall be based on data from an official source (where available) and made publicly available.	AMS	I.D	The combined margin emission factor (CM) consisting of the combination of operating margin (OM) and Build margin (BM) is calculated as per the "Tool to calculate the emission factor for an electricity system, Version 02.2.1"	OK	OK
iv. Is the following guideline followed: - In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. - If the recovered methane is used for electricity	AMS	I.D	The project activity is greenfield hydro power plant and eligible under Type I category.	OK	OK

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generation for supply to a grid then the baseline shall be calculated in accordance with paragraphs below else use other applicable type I methodologies such as AMS-IA or AMS-I.F. - If the recovered methane is used for heat generation or cogeneration it is eligible under category I.C.					
v. Is the following guideline followed for project activities that involve retrofits or replacements of an existing facility for renewable energy generation: - The baseline scenario is the continuing operation of the existing plant. - The methodology uses historical electricity generation data to determine the electricity generation of the existing plant in the baseline scenario, assuming that the historical situation observed prior to the implementation of the project activity would continue. In the absence of the CDM project activity, the existing facility would continue to provide electricity to the grid BL retrofit y EG, at historical average levels EGhistorical, y until the time at which the electrical generation facility would be likely to be replaced or retrofitted in the absence of the CDM project activity (DATE _{BaselineRetrofit}). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and baseline electricity production is assumed to equal the project.s net electricity production and no emission reductions are assumed to occur.	AMS	I.D	The project activity does not involve retrofits or replacements of an existing facility for renewable energy generation.	OK	OK
vi. Is the following guideline followed for Retrofit/capacity addition of hydro, solar, wind, geothermal, wave and tidal plants: - Use of standard deviation for calculating baseline electricity generation. - A minimum of 5 years (60 months) (excluding abnormal years) of historical generation data is	AMS	I.D	The project activity is a greenfield project, not a retrofit or capacity addition project.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
required in the case of hydro facilities and for other facilities a minimum of 3 years (36 months) data is required. - In the case that 5 years of historical data are not available - e.g., due to recent retrofits or exceptional circumstances - a new methodology or methodology revision shall be proposed. - In the case of wind, solar, wave or tidal power plants, the electricity produced by the added power plant(s) or unit(s) could be directly metered and used to determine EG BL,y. provided that the electricity produced by the added power plant(s) or unit(s) addition is separately metered. - Project activities for capacity addition in hydro or geothermal shall use equation 3 replacing subscript .retrofit. with .capacity addition.					
vii. Is the following guideline followed for Retrofit renewable energy units other than hydro, solar, wind, geothermal, wave and tidal plants: Baseline emissions are calculated as: $BE_{\text{retrofit},CO_2,y} = (EG_{PJ,\text{retrofit},y} - EG_{BL,\text{retrofit},y}) * EF_{CO_2}$ EG historical - A minimum of 3 years of data is required. In the case that 3 years of historical data are not available 9- e.g., due to recent retrofits or exceptional circumstances - a new methodology or methodology revision shall be proposed	AMS	I.D	The project activity is a greenfield project, not a retrofit or capacity addition project.	OK	OK
viii. Is the requirements concerning demonstration of the remaining lifetime of the replaced equipment met as described in the general guidelines to SSC methodologies? Note: If the remaining lifetime of the affected systems increases due to the project activity, the crediting period shall be limited to the estimated remaining lifetime, i.e., the time when the affected systems would have been replaced in the absence of the project activity.	AMS	I.D	The project activity is a greenfield project, not a retrofit or capacity addition project.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ix. Is the following guideline followed for Capacity addition with renewable energy units other than hydro, solar, wind, geothermal, wave and tidal plants: - The baseline scenario is the existing facility that would continue to supply electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted (DATE _{BaselineRetrofit}). - If the existing units shut down, are derated, or otherwise become limited in production, the project activity should not get credit for generating electricity from the same renewable resources that would have otherwise been used by the existing units (or their replacements).	AMS	I.D	The project activity is a greenfield project, not a retrofit or capacity addition project.	OK	OK
x. Does project activity involve co-firing ? If yes, the quantities and types of biomass and biomass to fossil fuel ratio to be used during crediting period is explained and documented transparently and presented in PDD ? Are ex ante estimation of these values provided in the PDD ?	AMS	I D	The project activity does not involve co-firing.	OK	OK
c. Does the selected methodology require use of tools (such as the “Tool for the demonstration and assessment of additionality” and the “Combined tool to identify the baseline scenario and demonstrate additionality”) to establish the baseline scenario?	VVM	81	The selected methodology, AMS-I.D., does not require the use of tools to establish the baseline scenario.	OK	OK
d. If yes, was the methodology consulted on the application of these tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	82	The selected methodology, AMS-I.D., does not require the use of tools to establish the baseline scenario. Hence the question is N/A.	OK	OK
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	83	Project activity is the installation of a new grid-connected renewable power plant. The baseline scenario is identified for the installation of a new grid-connected renewable power plant in the AMS-I.D. Hence the checklist question is N/A.	OK	OK
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those	VVM	83	Project activity is the installation of a new grid-connected renewable power plant. The baseline	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
required by the methodology reasonable in the context of the proposed CDM project activity?			scenario is identified for the installation of a new grid-connected renewable power plant in the AMS-I.D. Hence the checklist question is N/A.		
g. Has any reasonable alternative scenario been excluded?	VVM	83	Project activity is the installation of a new grid-connected renewable power plant. The baseline scenario is identified for the installation of a new grid-connected renewable power plant in the AMS-I.D. Hence the checklist question is N/A.	OK	OK
h. Is the baseline scenario identified reasonably supported by:	VVM	84	Project activity is the installation of a new grid-connected renewable power plant. The baseline scenario is identified for the installation of a new grid-connected renewable power plant in the AMS-I.D. Hence the checklist question is N/A.	OK	OK
i. Assumptions?	VVM	84	N.A	OK	OK
ii. Calculations?	VVM	84	N.A	OK	OK
iii. Rationales?	VVM	84	N.A	OK	OK
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	84	Project activity is the installation of a new grid-connected renewable power plant. The baseline scenario is identified for the installation of a new grid-connected renewable power plant in the AMS-I.D. Hence the checklist question is N/A.	OK	OK
j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (identify the sources)	VVM	84	Project activity is the installation of a new grid-connected renewable power plant. The baseline scenario is identified for the installation of a new grid-connected renewable power plant in the AMS-I.D. Hence the checklist question is N/A.	OK	OK
k. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	85	Project activity is the installation of a new grid-connected renewable power plant. The baseline scenario is identified for the installation of a new grid-connected renewable power plant in the AMS-I.D. Hence the checklist question is N/A.	OK	OK
l. Have all relevant policies and circumstances been identified and correctly considered in the PDD, in	VVM	85	Project activity is the installation of a new grid-connected renewable power plant. The baseline	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
accordance with the guidance by the CDM Executive Board?			scenario is identified for the installation of a new grid-connected renewable power plant in the AMS-I.D. Hence the checklist question is N/A.		
m. Does the PDD provide a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?	VVM	86	The PDD provides a transparent and detailed description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed project activity.	OK	OK
e. Algorithms and/or formulae used to determine emission reductions					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	89	The steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions is in accordance with “Tool to calculate the emission factor for an electricity system”.	OK	OK
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	90	All equations and parameters have been correctly applied in the VCS PD.	OK	OK
i. Have project emissions considered as described in recent version of ACM0002 followed for: - Emissions related to the operation of geothermal power plants; - Emissions from water reservoirs of hydro power plants.	AMS	I.D	This question will be answered after CAR18 is closed.	CAR18	OK
ii. Is leakage considered, if the energy generating equipment is transfereed from another activity	AMS	I.D	The leakage is considered as zero as per the selected methodology.	OK	OK
iii. Is emission reduction calculated as per equation $ER_y = BE_y - PE_y - LE_y$	AMS	I.D	Please provide emission reduction calculation transparently through the following equation: $ER_y = BE_y - PE_y - LE_y$	CAR19	OK
c. Does the methodology provide for selection between different options for equations or parameters?	VVM	90	The methodology and the referred tool “Tool to calculate the emission factor for an electricity system” provides a selection between different options for equations or parameters	OK	OK
d. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?	VVM	90	The steps of the “Tool to calculate the emission factor for an electricity system” version 02.2.1 are applied under section 3.1 of the VCS PD. The tool provides different options in Steps 1, 2, 3, 4 ,5 and 6. Please see	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			below discussions for details and some discrepancies.		
e. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	90	The correct equations and parameters have been used in accordance with the AMS I.D.	OK	OK
f. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	91	The data and parameters will not be monitored throughout the crediting period of the proposed project activity.	OK	OK
g. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	91	A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period and that are available when validation is undertaken is given under section 4.1 of the VCS PD.	OK	OK
i. Appropriate and correct?	VVM	91	All parameters are appropriate and correct	OK	OK
ii. Applicable to the proposed CDM project activity?	VVM	91	The project is an installation a new hydro power plant where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant). Algorithms and/or formulae used to determine emission reductions are in accordance with the AMS I.D. that is applicable methodology to the greenfield plant.	OK	OK
iii. Resulting in a conservative estimate of the emission reductions?	VVM	91	Please provide the emission reduction calculations in a conservative estimate. Please round down the calculations after the comma.	CL13	OK
h. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	91	All data are provided from official sources for the emission reduction calculations but the references are not available. Please provide references clearly.	CL14	OK
i. If yes, are the estimates provided in the PDD for these data and parameters reasonable?	VVM	91	The data and parameters will not be monitored on implementation	OK	OK
6. Additionality of a project activity					
b. Does the PDD describe how a proposed CDM project activity is additional?	VVM	94	The PDD describes how the proposed project activity is additional under section 2.5 of the VCS PD.	OK	OK
c. Were the following steps of the tool to assess additionality used:	EB 39	Ann 10	<i>Please see below</i>		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Identification of alternatives to the project activity?	EB 39	Ann 10	Identification of alternatives to the project activity is given under Step 1 of the VCS PD.	OK	OK
ii. Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible?	EB 39	Ann 10	The investment analysis is used to demonstrate the additionality of the Project under VCS PD.	OK	OK
iii. Barriers analysis?	EB 39	Ann 10	The barrier analysis is not used to demonstrate the additionality of the Project under VCS PD.	OK	OK
iv. Common practice analysis?	EB 39	Ann 10	Please apply common practice analysis transparently regarding to EB 63 Annex 12 as; Step 1: Calculate applicable output range as +/-50% of the design output or capacity of the proposed project activity. Step 2: In the applicable geographical area, identify all plants that deliver the same output or capacity, within the applicable output range calculated in Step 1, as the proposed project activity and have started commercial operation before the start date of the project. Note their number Nall Registered CDM project activities shall not be included in this step Step 3: Within plants identified in Step 2, identify those that apply technologies different that the technology applied in the proposed project activity. Note their number Ndiff Step 4: Calculate factor $F = 1 - N_{diff}/N_{all}$ representing the share of plants using technology similar to the technology used in the proposed project activity in all plants that deliver the same output or capacity as the proposed project activity. The proposed project activity is a common practice within a sector in the applicable geographical area if the factor F is greater than 0.2 and $N_{all} - N_{diff}$ is greater than 3.	CAR19	OK
d. In step 1 (i) have all the sub-steps as below been	EB 39	Ann	Please see below		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
followed?		10			
(i) Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	The alternatives scenario to the project activity is defined under Sub-step 1a.	OK	OK
(ii) Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	The consistency with mandatory laws and regulations is given under Sub-step 1b.	OK	OK
e. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10	<i>Please see below</i>		OK
(a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Alternative 1 is defined under Sub-step 1a of the VCS PD. Please define the alternative 1 is realistic or not by objective evidences.	CAR20	OK
(b) Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;	EB 39	Ann 10	Alternative 2 is defined under Sub-step 1a of the VCS PD. Alternative 2 is not a realistic. Alternative 2 is defined through the EPDK and EIE references. 25 th reference is not available, please clarify.	CL14	OK
(c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Alternative 3 is defined under Sub-step 1a of the VCS PD. This alternative is the same with the baseline scenario, and it is the only realistic and credible scenario.	OK	OK
f. Has the project participant included the technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant country/region?	EB 39	Ann 10	The defined alternatives are currently being implemented in the region.	OK	OK
g. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	Alternatives 1 and 2 are eliminated. Alternative 3 is found realistic .It is defined under outcome of Step 1a.	OK	OK
h. Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Under sub-step 1b, the relevant laws are identified. The all alternatives are in compliance of the identified laws, as these alternatives are the widely operational in the country.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	The alternatives are in compliance of the identified laws. Hence, the checklist question is N/A.	OK	OK
j. Has the outcome of Step 1b: Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.	EB 39	Ann 10	Under sub-step 1b, the relevant laws are identified. The all alternatives are in compliance of the identified laws, as these alternatives are the widely operational in the country.	OK	OK
k. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	The PP has selected only Step 2 (Investment analysis) under VCS PD.	OK	OK
l. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10	<i>Please see below</i>		
(a) Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Sub-step 2a, Determine appropriate analysis method, is applied.	OK	OK
(b) Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	Sub-step 2b, Option I, Apply simple cost analysis is not applied.	OK	OK
(c) Sub-step 2b: Option II. Apply investment comparison analysis;	EB 39	Ann 10	Sub-step 2b, Option II, Apply investment comparison analysis is not applied.	OK	OK
(d) Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Sub-step 2b, Option III, Apply benchmark analysis is applied.	OK	OK
(e) Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	Sub-step 2c, Calculation and comparison of financial indicators are applied.	OK	OK
(f) Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Sub-step 2d, Sensitivity analysis is applied.	OK	OK
m. In sub-step 2a has the determination of appropriate method of analysis done as per the guidance as below?	EB 39	Ann 10	<i>Please see below</i>		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(a) Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	In sub-step 2a, Option I is not applied.	OK	OK
(b) Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	Option II is applicable if there are alternatives to the project activity. In this case, Dagbasi HEPP does not have alternatives. Only viable alternative is the "No Activity". Therefore, investment analysis is not applicable to this alternative. As a result Option III (Benchmark Analysis) is applicable to the Dagbasi HEPP project. Equity IRR is selected for the benchmark analysis, but under the Benchmark analysis Benchmark IRR is defined, Equity IRR and Benchmark IRR are different terms, please clarify.	CL15	OK
n. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	N.A	OK	OK
o. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for the project type and decision-making context. Please specify	EB 39	Ann 10	N.A	OK	OK
p. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10	Please see below		
(a) Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	The financial indicator is identified as IRR as the financial indicator as stated under sub-step 2b. IRR is found a suitable indicator for the project by the validation team in comparison with the similar projects.	OK	OK
(b) When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the	EB 39	Ann 10	Under this project, a report was prepared, which came out in July 2010 with the title of Impact Scenarios of Carbon Finance on the renewable Power Capacity of Turkey. The report provides a calculation of Benchmark	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered.			IRR values for renewable type energy generation projects, besides other topics. The report determined the Benchmark IRR for small scale hydro power projects as 15%. In the financial analysis of the Dagbasi HEPP project, this benchmark value will be used.		
(c) Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.	EB 39	Ann 10	Under this project, a report was prepared, which came out in July 2010 with the title of Impact Scenarios of Carbon Finance on the renewable Power Capacity of Turkey. The report provides a calculation of Benchmark IRR values for renewable type energy generation projects, besides other topics. The report determined the Benchmark IRR for small scale hydro power projects as 15%. In the financial analysis of the Dagbasi HEPP project, this benchmark value will be used.	OK	OK
q. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10	<i>Please see below</i>		
(a) Calculate the suitable financial indicator for the	EB 39	Ann	Benchmark analysis (Option III) is applied. Hence, the	OK	OK

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proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.		10	checklist question is N/A.		
(b) Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 39	Ann 10	A separate excel calculation sheet is also submitted to the validation team to be able to assess the accuracy of the calculations. The parameters required for calculation of key financial indicator are presented under sub-step 2c of the VCS PD. Under sub-step 2b Benchmark IRR reference is given clearly.	OK	OK
(c) Justify and/or cite assumptions.	EB 39	Ann 10	Please provide an excel sheet of IRR inputs including (input name, input value, reference document name and page number, reference document page). All reference documents should be dated before the investment decision date to be determined. Table should include important costs, financial parameters (exchange rate etc), production data). Please also provide a table under sub-step 2c that includes (input name, input value, reference document name and page number, reference document page). All reference documents should be dated before the investment decision date to be determined.	CAR21	OK
(d) In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	This checklist question will be evaluated after the inputs are validated.	OK	OK
(e) Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	This checklist question will be evaluated after the inputs are validated.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(f) Present in the CDM-PDD a clear comparison of the financial indicator for the proposed CDM activity. Please specify details for above.	EB 39	Ann 10	The project IRR without carbon revenue is calculated as 9.24% which is lower than the benchmark IRR of 15%. After revisions please also define the project IRR with carbon revenue and compare with the Benchmark IRR.	CL16	OK
r. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.	EB 39	Ann 10	This checklist question will be evaluated after the inputs are validated.	OK	OK
s. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Outcome Step 2 has not defined under investment analysis. Please define the investment analysis outcomes under the "Outcome Step 2" section by justification.	CAR22	OK
t. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10	The PP selected only Step 2 and Step 3 is not applied. Therefore, this checklist question is N/A.	OK	OK
Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	N.A	OK	OK
Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity).	EB 39	Ann 10	N.A	OK	OK
u. Has the below guideline followed for Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project?	EB 39	Ann 10	N.A	OK	OK
l. (a) Investment barriers: For alternatives undertaken and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. No private capital is available from domestic or international capital markets due to real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.	EB 39	Ann 10	N.A	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
II. (b) Technological barriers: Skilled and/or properly trained labour to operate and maintain the technology is not available in the relevant country/region, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance; Lack of infrastructure for implementation and logistics for maintenance of the technology, Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information, The particular technology used in the proposed project activity is not available in the relevant region.	EB 39	Ann 10	N.A	OK	OK
III. (c) Barriers due to prevailing practice: The project activity is the “first of its kind”.	EB 39	Ann 10	N.A	OK	OK
IV. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	N.A	OK	OK
v. Has the outcome from Step 3a clearly mentioned in PDD?	EB 39	Ann 10	The PP selected only Step 2 and Step 3 is not applied. Therefore, this checklist question is N/A.	OK	OK
w. Has the below guideline followed for Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)?	EB 39	Ann 10	N.A	OK	OK
(a) If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed CDM project activity. In other words, demonstrate that the identified barriers do not prevent the implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration.	EB 39	Ann 10	N.A	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(b) Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternatives are prevented by these barriers.	EB 39	Ann 10	N.A	OK	OK
(c) The type of evidence to be provided should include at least one of the following: (a) Relevant legislation, regulatory information or industry norms; (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry associations, companies, bilateral/multilateral institutions, etc; (c) Relevant statistical data from national or international statistics; (d) Documentation of relevant market data (e.g. market prices, tariffs, rules); (e) Written documentation of independent expert judgments from industry, educational institutions (e.g. universities, technical schools, training centres), industry associations and others. Please specify.	EB 39	Ann 10	N.A	OK	OK
x. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	N.A	OK	OK
y. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10	<i>Please see below</i>		
(a) Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	The other activities similar to the proposed project activity are analyzed under Sub-step 4a.	OK	OK
(b) Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	Similar Options that are occurring is discussed under Sub-step 4b.	OK	OK
z. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant,	EB 39	Ann 10	The other activities similar to the proposed project activity are analyzed under Sub-step 4a. Public available references are not available please provide clearly, please also provide the reference for the Table 7 "Installed Capacity by 2010 (MW)" Please also apply the common practice analysis	CL17	OK

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quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.			through the CAR19 definition. Refer CAR19 .		
aa. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers. This can be done by comparing the proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.	EB 39	Ann 10	Under Sub-step 4b, please specify the similar projects at Mersin province by the objective evidences. References should be clearly for the similar projects at Mersin province.	CAR23	OK
bb. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Outcome Step 4 is not mentioned in the VCS PD. Please add "Outcome Step 4" under the common practice analysis which should include the outcomes of the common practice analysis.	CAR24	OK
cc. Has it been proved that the project is additional?	EB 39	Ann 10	This checklist question will be evaluated after the CAR19 is closed.	OK	OK
dd. Has the PP demonstrated additionality by explaining Investment barrier, Access-to-finance barrier, Technological barrier, Barrier due to prevailing practice or other barriers?	EB 35	Ann 34	N.A	OK	OK
ee. If Investment barrier has been explained, is it demonstraed that financilly more viable alternative to the project activity would have led to higher emissions? Please explain.	EB 35	Ann 34	N.A	OK	OK
ff. If Access-to-finance has been explained, is it demonstraed that the project activity could not	EB 35	Ann 34	N.A	OK	OK

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access appropriate capital without consideration of the CDM revenues? Please explain.					

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
gg. If Technological barrier has been explained, is it demonstrated that a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions? Please explain.	EB 35	Ann 34	N.A	OK	OK
hh. If prevailing practice barrier has been explained, is it demonstrated that the prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions? Please explain.	EB 35	Ann 34	N.A	OK	OK
ii. If other barrier has been explained, is it demonstrated that Other barriers such as institutional barriers or limited information, managerial resources, organizational capacity, or capacity to absorb new technologies would prevent the project activity any way?	EB 35	Ann 34	N.A	OK	OK
jj. Have the project participants identified the most relevant barrier?	EB 35	Ann 34	N.A	OK	OK
kk. Have the project participants provided transparent and documented third party evidence such as national/international statistics, national/provincial policy and legislation, studies/surveys by independent agencies etc. to demonstrate the most relevant barrier? Please explain.	EB 35	Ann 34	N.A	OK	OK
a. Prior consideration of the clean development mechanism					
a. Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	98	The proposed project activity is developed under VCS. The VCS PD is not made public available according to the VCS rules. Stakeholders comments are added to VCS PD. Therefore, this checklist question is N/A.	OK	OK
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	98	N.A	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
➤ Is the start date of the project activity, reported in the PDD, in accordance with the “Glossary of CDM terms”, which states that “The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins.”?	VVM	c.	Project timeline is not provided in the VCS PD. The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins. Please provide the starting date of the VCS project activity through the objective evidences.	CAR25	OK
d. Does the project activity require construction, retrofit or other modifications?	VVM	99	The project activity requires construction of a hydro power plant.	OK	OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	99	Project timeline is not provided in the VCS PD. The starting date of a CDM project activity is the earliest date at which either the implementation or construction or real action of a project activity begins. Please provide the starting date of the VCS project activity through the objective evidences.	CAR25	OK
f. Is it a new project activity (project activities with starting date on or after 02 August 2008) or an existing project activity (project activities with a start date before 02 August 2008)?	VVM	100	N.A	OK	OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the Executive Board before the project activity start date, had the PP informed the Host Party DNA and/or the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status? (Provide reference to such confirmation from Host Party DNA and/or UNFCCC secretariat).	VVM	101	N.A	OK	OK
h. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	102	N.A	OK	OK
(i) Evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	102	<i>Please refer to above</i>	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
(a) Minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a proposed CDM project activity?			<i>Please refer to above</i>	OK	OK
(ii) Reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, including, inter alia:	VVM	102	<i>Please refer to above</i>	OK	OK
(iii) contract with consultants for CDM/PDD/methodology services?	VVM	102	<i>Please refer to above</i>	OK	OK
(iv) Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	102	<i>Please refer to above</i>	OK	OK
(v) evidence of agreements or negotiations with a DOE for validation services?	VVM	102	<i>Please refer to above</i>	OK	OK
(vi) submission of a new methodology to the CDM Executive Board?	VVM	102	<i>Please refer to above</i>	OK	OK
(vii) Publication in newspaper?	VVM	102	<i>Please refer to above</i>	OK	OK
(viii) interviews with DNA?	VVM	102	<i>Please refer to above</i>	OK	OK
(ix) earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	102	<i>Please refer to above</i>	OK	OK
b. Identification of alternatives					
b. Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	105	The approved methodology, AMS I.D that is selected by the proposed project activity identifies the baseline scenario for greenfield renewable power plants. Hence, no further analysis is required.	OK	OK
c. If no, does the PDD identify credible alternatives to the project activity in order to determine the most	VVM	105	N.A	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
realistic baseline scenario?					
d. Does the list of alternatives given in the PDD ensure that:	VVM	106	N.A	OK	OK
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity?	VVM	106	N.A	OK	OK
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?	VVM	106	N.A	OK	OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	106	N.A	OK	OK
c. Investment analysis					
i. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	108	The investment analysis is used to demonstrate the additionality of the proposed project activity.	OK	OK
j. If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	108	<i>Please see below</i>		
i. the most economically or financially attractive alternative?	VVM	108	It is explained under section 2.5 of the VCS PD that proposed project activity is not most economically or financially attractive alternative.	OK	OK
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	108	It is explained under section 2.5 of the VCS PD that proposed project activity is not economically or financially feasible, without the revenue from the sale of certified emission reductions.	OK	OK
k. Was this shown by one of the following approaches?	VVM	109	<i>Please see below</i>		
i. Demonstrate that the proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified and demonstrate that there is at least one alternative which is less	VVM	109	Project activity will generate economic benefits from sales of electricity. Hence, the checklist question is N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
costly than the proposed CDM project activity.					
ii. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	109	It is explained under section 2.5 of the VCS PD that proposed project activity is not most economically or financially attractive alternative.	OK	OK
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	109	It is shown in the VCS PD that the financial returns of the proposed project activity would be insufficient to justify the required investment.	OK	OK
l. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 62	Ann 5	The period of assessment is 49 years and will not be limited to the proposed crediting period.	OK	OK
m. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical lifetime), or - if a shorter period is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
n. Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these are expected to be incurred during the period of assessment?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
o. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
p. Does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
q. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
r. Does the fair value calculations include both the book value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
s. Was depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated,	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?					
t. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other comparator is intended for post-tax comparisons?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
u. Are the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
v. Is the timing of the investment decision consistent and appropriate with the input values?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
w. Are all the listed input values been consistently applied in all calculations?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
x. Does the investment analysis reflect the economic decision making context at point of the decision to recommence the project in the case of project activities for which implementation ceases after the commencement and where implementation is recommenced due to consideration of the CDM?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated.	OK	OK
y. Have project participants supplied the spreadsheet versions of all investment analysis?	EB 62	Ann 5	The PP has supplied the spreadsheet versions of all investment analysis.	OK	OK
z. Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 62	Ann 5	The all formulas used in this analysis are readable and all relevant cells are viewable and unprotected.	OK	OK
aa. In cases where the project participant does not wish to make such a spreadsheet available to the public has the PP provided an exact read-only or PDF copy for general publication?	EB 62	Ann 5	The PP does not wish to black-out certain elements of the publicly available version.	OK	OK
bb. In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
cc. Was the cost of financing expenditures (i.e. loan repayments and interest) included in the calculation of project IRR?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
dd. In the calculation of equity IRR, has only the portion of investment costs which is financed by equity been considered as the net cash outflow?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ee. Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calculation of equity IRR? (this is not allowed)	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
ff. Was a pre-tax benchmark be applied?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
gg. In cases where a post-tax benchmark is applied, is actual interest payable taken into account in the calculation of income tax?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
hh. In such situations, was interest calculated according to the prevailing commercial interest rates in the region, preferably by assessing the cost of other debt recently acquired by the project developer and by applying a debt-equity ratio used by the project developer for investments taken in the previous three years?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
ii. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR calculated?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
jj. Has local commercial lending rates or weighted average costs of capital (WACC) selected as appropriate benchmarks for a project IRR?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
kk. Has required/expected returns on equity selected as appropriate benchmark for an equity IRR?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
ll. In case benchmarks supplied by relevant national authorities selected is it applicable to the project activity and the type of IRR calculation presented?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
mm. In the cases of projects which could be developed by an entity other than the project participant is the benchmark applied based on publicly available data sources which can be clearly validated?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
nn. Have internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC) been applied in cases where there is only one possible project developer?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
oo. In such cases, have these values been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
pp. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders been provided to the effect as above?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
qq. Has a thorough assessment of the financial statements of the project developer - including the proposed WACC - to assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects been conducted?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
rr. Does the risk premiums applied in the determination of required returns on equity reflect the risk profile of the project activity being assessed, established according to national/international accounting principles? (It is not considered reasonable to apply the rate general stock market returns as a risk premium for project activities that face a different risk profile than an investment in such indices.)	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
ss. Has an investment comparison analysis and not a benchmark analysis used when the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
tt. Have variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues been subjected to reasonable variation (positive and negative) and the results of this variation been presented in the PDD and be reproducible in the associated spreadsheets?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
uu. Have a corrective action been raised for a variable to be included in the sensitivity analysis which constitute less than 20% and have a material impact on the analysis ?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
vv. Is the range of variations selected is reasonable in the project context?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
ww. Does the variations in the sensitivity analysis at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
xx. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative, is an assessment done of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity?	EB 62	Ann 5	This checklist question will be evaluated after the inputs are validated	OK	OK
yy. Was the plant load factor defined ex-ante in the CDM-PDD according to one of the following options:	EB 62	Ann 5	Please define the plant load factor in the VCS PD according to one of the following options: The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval Please define and provide reference for the plant load factor under section Sub-step 2c.	CAR26	OK
i. The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval?	EB 62	Ann 5	Refer CAR26	OK	OK
ii. The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)?	EB 62	Ann 5	Refer CAR26	OK	OK
zz. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices	VVM	111	This checklist question will be evaluated after the inputs are validated	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
conducted?					
aaa. Were the parameters cross-checked against third-party or publicly available sources, such as invoices or price indices?	VVM	111	This checklist question will be evaluated after the inputs are validated	OK	OK
bbb. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants reviewed?	VVM	111	This checklist question will be evaluated after the inputs are validated	OK	OK
ccc. Was the correctness of computations carried out and documented by the project participants assessed?	VVM	111	This checklist question will be evaluated after the inputs are validated	OK	OK
ddd. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	111	A sensitivity analysis is applied to determine under which conditions variations in the results would occur and the likelihood of the occurrence of these conditions are assessed.	OK	OK
eee. Is the type of benchmark applied suitable for the type of financial indicator presented?	VVM	112	This checklist question will be evaluated after the inputs are validated	OK	OK
fff. Do any risk premiums applied determining the benchmark reflect the risks associated with the project type or activity?	VVM	112	This checklist question will be evaluated after the inputs are validated	OK	OK
ggg. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:			This checklist question will be evaluated after the inputs are validated	OK	OK
iii. assessing previous investment decisions by the project participants involved?	VVM	112	This checklist question will be evaluated after the inputs are validated	OK	OK
iv. determining whether the same benchmark has been applied?	VVM	112	This checklist question will be evaluated after the inputs are validated	OK	OK
v. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	112	This checklist question will be evaluated after the inputs are validated	OK	OK
hhh. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed project activities?	VVM	113	This checklist question will be evaluated after the inputs are validated	OK	OK
ccc. If yes:	VVM	113	Please see below		

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. has the FSR been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed?	VVM	113	This checklist question will be evaluated after the inputs are validated	OK	OK
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	113	This checklist question will be evaluated after the inputs are validated	OK	OK
iii. If not, was the appropriateness of the values validated?	VVM	113	This checklist question will be evaluated after the inputs are validated	OK	OK
iv. On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	113	This checklist question will be evaluated after the inputs are validated	OK	OK
d. Barrier analysis					
e. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	115	The barrier analysis is not used to demonstrate the additionality of the proposed project activity.	OK	OK
f. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	115	<i>Please see below</i>		
viii. prevent the implementation of this type of proposed CMD project activity?	VVM	115	N.A	OK	OK
ix. do not prevent the implementation of at least one of the alternatives?	VVM	115	N.A	OK	OK
g. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}	VVM	116	N.A	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
h. Were the barriers determined as real by:	VVM	117	<i>Please see below</i>		
i. assssing the available evidence and/or undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist?	VVM	117	N.A	OK	OK
ii. ensuring that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	VVM	117	N.A	OK	OK
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as adequately substantiated)	VVM	117	N.A	OK	OK
i. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of <i>at least one of</i> the possible alternatives, in particular the identified baseline scenario?	VVM	117	N.A	OK	OK
e. Common practice analysis					
b. Is this a large-scale, or first-of-its kind small-scale project activity?	VVM	118	The proposed project activity is a small-scale project activity.	OK	OK
c. If yes, was common practice analysis carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality?	VVM	118	Refer CAR19	CAR19	OK
d. Was it assessed whether the geographical scope (e.g. defined region) of the common	VVM	118	The geographical scope of the common practice analysis is assessed to be appropriate by the validation	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologies the relevant region for assessment will be local and for others it may be transnational/global.			team.		
e. Was a region other than the entire host country chosen?	VVM	120	Refer CAR23	CAR23	OK
f. If yes, was the explanation why this region is more appropriate assessed?	VVM	120	No region other than the host country was chosen. Hence, this checklist question is N/A.	OK	OK
g. Using official sources and local and industry expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM project activities, have been undertaken in the defined region?	VVM	120	Refer CAR23	CAR23	OK
h. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	120	No, similar and operational project activities are not widely observed and commonly carried out in the region.	OK	OK
i. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	120	N.A	OK	OK
7. Monitoring plan					
a. Does the PDD include a monitoring plan?	VVM	122	The VCS PD includes a monitoring plan under section 4.3.	OK	OK
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	122	The monitoring plan is based on the "Approved consolidated baseline and monitoring methodology AMS I.D. "	OK	OK
c. Were the list of parameters required by the selected methodology identified?	VVM	123	In the monitoring plan only EGy parameter is defined. Please add the following parameters to the monitoring plan; 1) Cappj is the Installed capacity of HEPP 2) Apj is the Area of reservoir.	CAR27	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Please also add the $EF_{grid,CM,y}$ to the data and parameters available at validation section.		
d. Does the monitoring plan contains all necessary parameters?	VVM	123	The monitoring plan contains all necessary parameters.	OK	OK
e. Are the parameters clearly described?	VVM	123	Refer CAR27	OK	OK
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	123	The means of monitoring is described in the plan comply with the requirements of the methodology.	OK	OK
g. Have all relevant parameters been monitored as indicated in the table of the methodology? PI state any deviations/omissions.	AMS	I.D	The checklist question will be evaluated after CAR27 is closed.	OK	OK
h. Has the CO2 emission factor of the grid electircity measured either by Combined Margin or by the Weighted Average emission?	AMS	I.D	The CO2 emission factor is calculated by combined margin.	OK	OK
i. Has the CO2 emission factor of fossil fuel type i measured as per the .Tool to calculate project or leakage CO2 emissions from fossil fuel combustion."	AMS	I.D	N.A	OK	OK
j. Has the Net calorific value of fossil fuel type i measured as per the .Tool to calculate project or a leakage CO2 emissions from fossil fuel combustion.	AMS	I.D	N.A	OK	OK
k. Has the Quantity of fossil fuel consumed in year y measured as per the .Tool to calculate project or a leakage CO2 emissions from fossil fuel combustion.	AMS	I.D	N.A	OK	OK
l. Has the Quantity of net electricity supplied to the grid in year y measured using energy meters.	AMS	I.D	Monitoring equipment is the power meters located at the TEIAS substation. They will measure the amount of electricity supplied to the grid and withdrawn from the grid. One power meter will be the main one, and the other will serve as the backup. Power meters will be sealed by the TEIAS to prevent any possible interventions. Power meters will measure data hourly; however, readings will be on a monthly basis. Collected data will be stored at the PMUM by TEIAS.	OK	OK
m. Is the quantity of net electricity supplied to the grid in year y monitored/recorded - Continuous monitoring, hourly measurement and at least monthly recording? Notes on measurement method:	AMS	I.D	Monitoring equipment is the power meters located at the TEIAS substation. They will measure the amount of electricity supplied to the grid and withdrawn from the grid. One power meter will be the main one, and the	CAR28	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
- Calibration should be undertaken as prescribed in the relevant paragraph of General Guidelines to SSC Methodologies. - If applicable, measurement results shall be cross checked with records for sold/purchased electricity (e.g., invoices/receipts) - The net electricity export/supplied to a grid is the difference between the measured quantities of the grid electricity export and the import. If applicable, cross check net electricity supplied to a grid as gross energy generation in the project activity power plant minus the auxiliary/station electricity consumption, technical losses and electricity import from the grid to the project power plant measured at the grid interface/connection used for billing purposes			other will serve as the backup. Power meters will be sealed by the TEIAS to prevent any possible interventions. Power meters will measure data hourly; however, readings will be on a monthly basis. Collected data will be stored at the PMUM by TEIAS. Calibration and maintenance of these two power meters are performed by the TEIAS on a periodic basis which is conducted in accordance with the Measure and Metering Devices Regulation. Please provide System Usage agreement between the TEIAS and Project owner. On the other hand Cross-check process is not described under the QA/QC procedures and Description of the monitoring plan. Please provide the cross-check process clearly.		
n. Is the Quantity of biomass consumed in year y monitored/recorded Continuously or estimate using annual energy/mass balance? Notes on measurement method: - Use mass or volume based measurements. - Adjust for the moisture content in order to determine the quantity of dry biomass. - And/or perform an annual energy/mass balance that is based on purchased quantities and stock. - For projects consuming biomass and fossil fuel to produce electricity, a specific energy consumption¹¹ of each type of fuel (biomass or fossil) to be used should be specified ex ante. The consumption of each type of fuel (biomass or fossil) shall be monitored. If fossil fuel is used, the electricity generation metered should be adjusted by deducting the electricity generation from fossil fuels using the specific energy consumption and the quantity of fossil fuel consumed The amount of electricity generated using biomass fuels calculated then shall be compared with the amount of electricity generated calculated using specific energy consumption and amount of each type of biomass fuel used. The lower	AMS	I.D	This project activity is not included biomass. Hence this checklist question is N/A.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
of the two values should be used to calculate emission reductions					
o. Is the Moisture content of the biomass residues monitored atleast on a monthly basis?	AMS	I.D	This project activity is not included biomass. Hence this checklist question is N/A.	OK	OK
p. Is the weighted average of the moisture content calculated for each monitoring period and used in the calculations? Notes on measurement method: On-site measurements In case of dry biomass, monitoring of this parameter is not necessary	AMS	I.D	This project activity is not included biomass. Hence this checklist question is N/A.	OK	OK
q. Is Net calorific value of biomass residue type k monitored annually? Notes on measurement method: Measurement in laboratories according to relevant national/international standards. Measure the NCV based on dry biomass. Check the consistency of the measurements by comparing the measurement results with measurements from previous years, relevant data sources (e.g. values in the literature, values used in the national GHG inventory) and default values by the IPCC. If the measurement results differ significantly from previous measurements or other relevant data sources, conduct additional measurements	AMS	I.D	This project activity is not included biomass. Hence this checklist question is N/A.	OK	OK
r. Is the Standard deviation of the annual average historical net electricity generation delivered to the grid by the existing renewable energy plant that was operated at the project site prior to the implementation of the project activity calculated from data used to establish Eghistorical?	AMS	I.D	This project activity is not included biomass. Hence this checklist question is N/A.	OK	OK
s. Is the parameters relevant to reservoir based hydro and geothermal plants monitored following the most recent version of ACM0002?	AMS	I.D	The checklist question will be evaluated after CAR27 is closed.	OK	OK
t. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	123	The monitoring arrangements have been clearly described in the monitoring plan in line with the project	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
u. Does the monitoring plan provide details regarding calibration of monitoring equipments/ instruments or does it include zero check as a substitute for calibration? (zero check can not be considered as a substitute for calibration)	EB 24	37	design. TEIAS is responsible for the maintenance and calibration of the meters.	OK	OK
v. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:	VVM	123	<i>Please see below.</i>		
i. data management procedures?	VVM	123	The checklist question will be evaluated after CAR27 is closed.	OK	OK
ii. quality assurance procedures?	VVM	123	The checklist question will be evaluated after CAR27 is closed.	OK	OK
iii. quality control procedures?	VVM	123	The checklist question will be evaluated after CAR27 is closed.	OK	OK
8. Sustainable development					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	125	N.A	OK	OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	126	N.A	OK	OK
9. Local stakeholder consultation					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website?	VVM	128	As this is a VCS project, the stakeholder consultation meeting is not a requirement. However, the project owners are in touch with stakeholders. In the case of any problems the stakeholder can reach the project owner. Under section 6 stakeholder comments are given.	OK	OK
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed	VVM	129	N.A	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
CDM project activity been invited?					
c. Is the summary of the comments received as provided in the PDD complete?	VVM	129	N.A	OK	OK
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	129	N.A	OK	OK
10. Environmental impacts					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	131	The project has “EIA Not Required” given by the Ministry of Environment and Forest dated 12/01/2011 in line with the Turkish laws. “EIA Not Required” is provided to DOE.	OK	OK
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	132	Project description report dd. 2010 has been provided to DOE.	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	132	The project activity is environmentally licensed by the local government. For the subject project activity, Ministry of Environment and Forestry have issued an EIA Not required document regarding to National Gazette (Number: 26939) has been provided to DOE.	OK	OK
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	132	The project activity is environmentally licensed by the local government. For the subject project activity, Ministry of Environment and Forestry have issued an EIA Not required document regarding to National Gazette (Number: 26939) has been provided to DOE.	OK	OK

Table 2 Specific validation activities

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1. Project design of small-scale clean development mechanism project activities					
a. Does the proposed small-scale project activity meet the requirements of the simplified modalities and procedures for small-scale CDM project activities?	VVM	133	The proposed small-scale project activity meets the requirements of the simplified modalities and procedures for small-scale CDM project activities.	OK	OK
b. Does the project activity qualify within the thresholds of the three possible types of small scale project activities? [Type (i) project activities: renewable energy project activities with a maximum output capacity equivalent to up to 15 megawatts; Type (ii) project activities: energy efficiency improvement project activities which reduce energy consumption, on the supply and/or demand side, by up to the equivalent of 15 gigawatt hours per year; Type (iii) project activities: other project activities that both reduce anthropogenic emissions by sources and directly emit less than 15 kilotonnes of carbon dioxide equivalent annually.]	VVM	134	The checklist question will be evaluated after CAR2 is closed.	OK	OK
c. Does the project activity conform to one of the approved small-scale categories?	VVM	134	The checklist question will be evaluated after CAR2 is closed.	OK	OK
d. Does the project activity apply the relevant tool and methodology?	VVM	134	The baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board. The selected methodology and tools as follows: •AMS-I.D. “Grid Connected Renewable Electricity Generation”, Version 17.0 •“Tool to calculate the emission factor for an electricity system”, Version 02.2.1 •“Tool for the demonstration and assessment of additionality”, Version 6.0.0	OK	OK
e. Are the small-scale methodologies applied in conjunction with the general guidance to the methodologies, which provides guidance on equipment capacity, equipment performance, sampling and other monitoring-related issues?	VVM	134	The small-scale methodology is applied in conjunction with the general guidance to the methodology.	OK	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
f. Is the project activity a debundled component of a large-scale project, i.e., is there a registered small-scale CDM project activity or an application to register another CDM project activity: (a) with the same project participants; (b) in the same project category and technology/measure; and (c) registered within the previous 2 years; and (d) whose project boundary is within 1 km of the proposed boundary of the proposed small-scale activity at the closest point?	VVM	134	It is indicated under section 1.13 of the VCS PD Dagbasi HEPP is not a part of grouped projects. This statement was verified during the site visit.	OK	OK
g. Is an assessment of the environmental impacts of the proposed CDM project activity required by the host Party?	VVM	134	The project has "EIA Not Required" given by the Ministry of Environment and Forest dated 12/01/2011 in line with the Turkish laws. "EIA Not Required" is provided to DOE.	OK	OK
h. Is the project additional?	VVM	135	This question will be answered after all CAR and CLs are closed regarding to additionality.	OK	OK

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
CAR01 Standards and factors used from TEIAS, EPDK and IPCC. These sources are not publicly available.		Reference html address are revised.	Review 1: References are corrected in whole VCS PD. <u>The corrective action request is closed.</u>

CAR02 Brief description is given under section 1.1. Project location, expected electricity generation are defined under section 1.1. Project capacity is not defined regarding to installed capacity generator.		In Section 1.1, project capacity is revised to MWe. Project generator maximum output capacity is referenced to the Turbine Manufacturing Contract signed between Wasserkraft GmbH and ALPEREN A.S. Dagbasi HEPP turbines will be manufactured exactly based on the values provided in this contract. Please see page 5 for generator output values. Whole contract document is provided as an attachment. In summary, following added to the Section 1.1. As per the UNFCCC CDM EB61 Annex 21, project capacity should be lower than 15 MW. Project maximum generator output capacity is 3.410 MW per unit, in total which is equal to 10.230 MW (3.410x3 unit).* Dipnote*:Please see the Turbine Generation Agreement between Wasserkraft GmbH&Co KG and : Alperen Elektrik Uretim A.S. pp.3. Turbines will be manufactured based on this agreement which means that Dagbasi HEPP generators will have maximum capacity output of 3.410 MW per generator unit.	Review 1: The project capacity is revised to MWe. Please define the capacity through the capacity of generator line with the EB 61 Annex 21. Capacity should be defined by multiplying generator capacity and power factor by objective references. <u>The corrective action request is still open.</u> Review 2: The project capacity is accepted through the production license in MWe unit, but please calculate the project capacity through the generator capacities according to EB61 Annex 21. It will show that the project capacity is lower than 15 MW. Only the definition should be added. <u>The corrective action request is still open.</u> Review 3: The project capacity is confirmed through the turbine agreement which calculated the capacity with maximum capacity output of 3.410 MW per generation unit. <u>The corrective action request is closed.</u>
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CAR03 It is not defined that the origin of data which will be used for the emission reduction calculation. Also the cross-check data is not described under section 4.3 of the VCS PD.		Section 4.3 is revised. Following sentence is added: TEIAS invoices will be used for monitoring to determine the Dagbasi HEPP annual emission reductions. PMUM settlement web site data will be used for cross-checking.	Review 1: TEIAS invoices are main source of the generation and PMUM records will be used or cross-checking. <u>The corrective action request is closed.</u>
CAR04 Dagbasi HEPP Plant manager will be responsible for the implementation of the monitoring plan and preparation of the monitoring report. A role diagram that shows roles and responsibilities of the employees' are not provided for the project activity.		Role diagram added (See section 4.3)	Review 1: The role diagram is added under section 4.3 of the VCS PD. <u>The corrective action request is closed.</u>
CAR05 Cross-check process is not defined clearly under section 4.2 of the VCS PD.		Section 4.2 is revised where cross-check process is clearly defined. Following sentence added: PMUM settlement data will be used for crosschecking monthly TEIAS invoices.	Review 1: Cross check process is clearly defined under section 4.2 of the VCS PD. <u>The corrective action request is closed.</u>

CAR06 The project time line is not added to the VCS PD.		Timeline added Investment decision date added to timeline and documentation is provided.	<u>Review 1:</u> The project timeline is added under section 2.5 of the VCS PD. Please define investment decision date with objective evidence in the timeline. <u>The corrective action request is still open.</u> <u>Review 2:</u> Please define investment decision date in the timeline. Construction contract is already provided. <u>The corrective action request is still open.</u> <u>Review 3:</u> Construction contract date is presented as 13.09.2011 in the project timeline as provided. <u>The corrective action request is closed.</u>
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CAR07 Common practice analysis is not determined through EB 63 Annex 12.		Based on the requirement in the CDM Validation and Verification Manual Version 1.2, paragraph 119, page 23, common practice analysis is not applied to the project given that it is a small scale project. CDM Validation and Verification Manual Version 1.2, paragraph 119, page 23 states that “For proposed large-scale project activities, unless the proposed project type is first-of-its kind as determined in accordance with the relevant guidelines, the DOE shall assess whether the project participants have conducted a common practice analysis.” Statement only concerns about the large scale projects, not small ones.	Review 1: F factor is calculated as 0.34 and Nall-Ndiff is calculated as 50. F should be smaller than 0.2 and Nall-Ndiff should be smaller than 3 through “GUIDELINES ON COMMON PRACTICE”. Please check the calculations. <u>The corrective action request is still open.</u> Review 2: CDM Validation and Verification Manual Version 1.2, paragraph 119, page 23 states that “For proposed large-scale project activities, unless the proposed project type is first-of-its kind as determined in accordance with the relevant guidelines, the DOE shall assess whether the project participants have conducted a common practice analysis.” <u>The corrective action request is closed.</u>
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CAR08 The agreement between the TEIAS and project owner which includes calibration procedure rules is not provided.		TEIAS System Usage Agreement is a standard protocol and it defines the calibration procedure briefly. PD is revised accordingly. Following sentence added to the Section 4.3: Calibration and maintenance of these two power meters are performed by the TEIAS once in a year as per the TEIAS System Usage Agreement rules.	<u>Review 1:</u> The system usage agreement which defines the calibration rules is provided to the validation team. It is dated on 14/06/2013. <u>The corrective action request is closed.</u>
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CAR09 A brief description of the project activity is defined under section 1.1 of the VCS PD. Please provide following matters under the Summary Description of the Project; • The second reference under the Summary Description of the Project is the water usage agreement with DSI. Water Usage Agreement with DSI is not provided to the validation team. • The project capacity is defined as 10.75 MW and 3 turbines are defined. The capacity is not provided through the feasibility report. • The annual electricity generation is not defined through the approved feasibility report. • Project capacity is not provided through EB61 Annex21. • The capacity units are not MWe. • Estimated emission reduction is not described.		PLEASE SEE THE CAR02 regarding the open items. Water Usage agreement is provided Capacity issue is clarified with providing new references and an explanation in footnote 6. Annual electricity generation is correctly written throughout the report. Capacity is revised to MWe Estimated annual emission reduction is added. Project capacity is also defined in generator maximum output capacity. Please see Section 1.1 and please explanation provided in CAR02.	Review 1: The water usage agreement dd. 17/03/2011 is provided. OK Capacity is provided through the Electricity generation license. Please define the capacity through EB61 Annex 21. Not Closed. Annual electricity generation is given through the feasibility report. OK Capacity is provided through the Electricity generation license. Please define the capacity through EB61 Annex 21. Not Closed. Estimated emission reduction is presented as 20,372 tCO₂ under section 1.1 of the VCS PD. OK <u>The corrective action request is still open.</u> Review 2: Please see CAR02. <u>The corrective action request is still open.</u> Review 3: CAR02 is closed. <u>The corrective action request is closed.</u>
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CAR10 The technical description of the project activity is given under section 1.8 of the VCS PD and the location of the project activity is defined under section 1.9 of the VCS PD. Project lifetime is defined as 49 years please add reference. The reference for the Table 1: "Technical Characteristics of Dagbasi HEPP" under section 1.8 of the VCS PD is not added. The project is located in the Mediterranean Region in Turkey. Project is in the boundary of the Anamur District of Province Mersin. The reference for the coordinates are not added.	Reference for Table 1 correct. I created the Table 1 based on the data provided in pages between 4-9. Please let me know which data in Table 1 you could not find from the Dagbasi Feasibility, section1, page 4-9. <u>Following added to Section 1.8</u> Legally project lifetime is 49 years. In other words, Dagbasi HEPP investor can operate this project for 49 years; beyond this time period, investor has to make a new agreement with the government to be able to continue to operate the plant. However, from the technical point of view, project life time can be referred to the lifetime of turbine. All construction elements have a lifetime of 45 years according to the DSI Report. The only element having shortest lifetime is turbine which is defined as 150 000 in UNFCCC CDM EB50-Annex 15. So the technical lifetime of the Dagbasi HEPP Project is 150 000 hr (approximately 17 years). However, since turbines will not operate continuously, this value can be accepted as 20 years which is equal to the time period to which it is being applied for carbon certification to VCS (2 times 10 year. Please see Section 1.6 of this report). As a note, Dagbasi HEPP project has not started to operation yet; so technical remaining lifetime of the project is also 150 000 hr in this case. Reference for the coordinates is correct. I just checked it again. Coordinates are written in under 1.2Projenin Yeri title, Section 1, pp.3. Please see 3rd and 4th paragraphs.	<u>Review 1:</u> The reference for the Table 1 is not correct. Please check the reference. Please define the project lifetime through the EB 50 Annex 15 "Tool to determine the remaining lifetime of equipment". The coordinates of the project activity is provided, but the reference for the coordinates is not correct. Please check. <u>The corrective action request is still open.</u> <u>Review 2:</u> Corrections have been done. <u>The corrective action request is closed.</u>
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CAR11 It is not defined that how environmentally safe and sound technology, and know-hoe, is transferred to the Host Party(ies) under section 1.8 (Description of the project activity).		Section 1.8 is revised. Following paragraph added: As a run-of-river type project, Dagbasi HEPP applies environmentally safe and sound technologies, having no harm to environment. Turbines and generators that will be used in the project will be manufactured abroad and then delivered to the project site. By the time of writing this report, Austrian Wasser Kraft Craft Company was chosen by the project owner to transfer these technology and equipment to the project. Chosen technology is a grid friendly one with low maintenance needs as well as low noise and low environmental impacts.	Review 1: How environmentally safe and sound technology, and know-hoe is transferred to the Host Party(ies) under section 1.8 of the VCS PD is provided. The corrective action request is closed.
CAR12 Timeline of the project activity is not provided.		Timeline added	Review 1: The project time line is added under section 2.5 of the VCS PD. VER considering is provided through the Board decision dd. 16/08/2011. The corrective action request is closed.
CAR13 A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting period and that are available when validation is undertaken is given under section 4.1 of the VCS PD. EFgrid,CM,y parameter is not added to the VCS PD.		Section 4.1 is revised. EFgrid,CM,y is added.	Review 1: EFgrid,CM,y parameter is added under section 4.1 of the VCS PD. The corrective action request is closed.

CAR14 The ex-ante calculation of emission reductions, applying all relevant equations provided in the approved methodology is given clearly under section 3 of the VCS PD. The emission reduction calculation sheet is not revised through the revised annual electricity generation and please add Summary of GHG Emission reductions and removals table to the excel calculation sheet.		Project commissioning date become 1.1.2014. According to this new update emission values in PD and excel sheet, Dagbasi-EF_Calculation.xlsx, are updated. Whole PD is corrected (1st April 2013 deleted, 01.01.2014 added)	Review 1: Emission reduction values are not line with between the excel sheet and VCS PD for the 2013 and 2023 years. Please correct. <u>The corrective action request is still open.</u> Review 2: In related sections project start date is still given as 1st April 2013. Please check and correct. <u>The corrective action request is still open.</u> Review 3: Project start date is revised as 01.01.2014 in related sections. <u>The corrective action request is closed.</u>
CAR15 The methods for generating, recording, storing, aggregating, collating and reporting data on monitored parameters are described under section 4.3 of the VCS PD. It is not defined that the data which will be used for the monitoring net electricity and cross-check process.		Section 4.3 revised. Following sentence added: TEIAS invoices will be used for monitoring to determine the Dagbasi HEPP annual emission reductions. PMUM settlement web site data will be used for cross-checking.	Review 1: TEIAS invoices will be used for monitoring and PMUM datas will be used for cross-check process. <u>The corrective action request is closed.</u>

CAR16 The project is a run-of river type power generating plant that will be constructed on the Sugozi Stream between the elevations of 510 m and 383.5 m. Project capacity, units capacity, annual electricity generation and estimated annual emission reduction is not provided by objective evidences under section 1.1 of the VCS PD.		Please let me know which references are missing. I reviewed the report again. If you still see missing reference, please let me know. Following sentences are added to Section 1.1. As an objective evidence, Dagbasi Feasibility Report is referenced. Each turbine will have an installed capacity of 3.58533 MW (3.47766 MWe). Total installed capacity of the project will be 10.756 MW (10.433 MWe). Project is expected to generate 38.446 GWh amount of energy per year. Annually, Dagbasi HEPP is expected to 20,37 tCO2 amount of emission reduction annually.	Review 1: References are provided for the capacity, annual generation and expected emission reduction. Please check the feasibility references in whole VCS PD. <u>The corrective action request is still open.</u> Review 2: References are corrected. <u>The corrective action request is closed.</u>
CAR17 The project activity consists three horizontal axis Francis turbines. It is not line with the feasibility report.		Following references are provided regarding the change in the number of turbines 1) DSI letter to EPDK 2) Revised energy generation license of Dagbasi HEPP	Review 1: DSI letter to EPDK and the revised electricity generation license is provided to the validation team. <u>The corrective action request is closed.</u>

CAR18 The reservoir area of the project activity is defined as 2800 m2. Reservoir area is not referred and power density calculation is not added to VCS PD.		Technical drawing is provided in both dwg and pdf formats. Dwg can be opened with AutoCad program, and using the related tools, the areas in blue color which represents the weir area can be calculated. What we provided in PD document is exactly done by calculating this blue area by using the Autocad program.	Review 1: Under section 2.2. reservoir area is referenced from the Dagbasi Weir Layout drawing. Please provide the technical drawing to the validation team. <u>The corrective action request is still open.</u> Review 2: The technical drawing is provided to validation team but the reservoir area, and reservoir area calculation is not presented in the technical drawing. Please clarify. <u>The corrective action request is still open.</u> Review 3: The reservoir area is confirmed according to technical drawings. <u>The corrective action request is closed.</u>
CAR19 Emission reduction calculation is not provided through the methodology.		Section 3.4 is revised accordingly	Review 1: Emission reduction calculation is provided transparently. <u>The corrective action request is closed.</u>

CAR20 Alternative 1 is defined under Sub-step 1a of the VCS PD. It is not defined that the alternative 1 is realistic or not by objective evidences.		PD is revised accordingly. Following paragraph is revised as given below: First alternative, as per the statement of the tool under this category, is the implementation of the Dagbasi HEPP project without being registered to a VER program. However, this is not an realistic scenario due to that project IRR is below the benchmark IRR value (15%) without having carbon revenue.	Review 1: Alternatives are provided clearly. <u>The corrective action request is closed.</u>
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CAR21

Investment inputs of the project activity is not clear.

Investment inputs are from the Feasibility Report section 9,pp 5-6. That is correct. Please let us know the inputs that you could not find from the Feasibility Report.

IRR Excel sheet is updated to match exactly the Table 9.1.2 in Dagbasi HEPP Feasibility Report.

The table in PD is updated as providing an explanation to the Construction Cost. Normally in Dagbasi HEPP Feasibility Report, construction cost is not mentioned separately, but if you sum the numbers, you can see that number stated in PD.

Review 1:

The reference for the investment inputs is given as "Feasibility Report section 9,pp 5-6". There is no investment input under the reference. Please check and correct.

The corrective action request is still open.

Review 2:

The reference is given as under section 9 as follows;

Table 9.1.2 Dagbasi HEPP Project Lifetime Balance and Feasibility Study Table: Balance and Cash Flow Summary

Line No.	Transaction	Year (t)	% of Balance	% of Balance	Feasibility	Feasibility
			Factor (t)	Factor (t)	Study (t)	Study (t)
1	Initial Investment	0.75	0.00	0.00	0.00	0.00
2	Initial Investment	0.75	0.00	0.00	0.00	0.00
3	Initial Investment	0.75	0.00	0.00	0.00	0.00
4	Initial Investment	0.75	0.00	0.00	0.00	0.00
5	Initial Investment	0.75	0.00	0.00	0.00	0.00
6	Initial Investment	0.75	0.00	0.00	0.00	0.00
7	Initial Investment	0.75	0.00	0.00	0.00	0.00
8	Initial Investment	0.75	0.00	0.00	0.00	0.00
9	Initial Investment	0.75	0.00	0.00	0.00	0.00
10	Initial Investment	0.75	0.00	0.00	0.00	0.00
11	Initial Investment	0.75	0.00	0.00	0.00	0.00
12	Initial Investment	0.75	0.00	0.00	0.00	0.00
13	Initial Investment	0.75	0.00	0.00	0.00	0.00
14	Initial Investment	0.75	0.00	0.00	0.00	0.00
15	Initial Investment	0.75	0.00	0.00	0.00	0.00
16	Initial Investment	0.75	0.00	0.00	0.00	0.00
17	Initial Investment	0.75	0.00	0.00	0.00	0.00
18	Initial Investment	0.75	0.00	0.00	0.00	0.00
19	Initial Investment	0.75	0.00	0.00	0.00	0.00
20	Initial Investment	0.75	0.00	0.00	0.00	0.00
21	Initial Investment	0.75	0.00	0.00	0.00	0.00
22	Initial Investment	0.75	0.00	0.00	0.00	0.00
23	Initial Investment	0.75	0.00	0.00	0.00	0.00
24	Initial Investment	0.75	0.00	0.00	0.00	0.00
25	Initial Investment	0.75	0.00	0.00	0.00	0.00
26	Initial Investment	0.75	0.00	0.00	0.00	0.00
27	Initial Investment	0.75	0.00	0.00	0.00	0.00
28	Initial Investment	0.75	0.00	0.00	0.00	0.00
29	Initial Investment	0.75	0.00	0.00	0.00	0.00
30	Initial Investment	0.75	0.00	0.00	0.00	0.00
31	Initial Investment	0.75	0.00	0.00	0.00	0.00
32	Initial Investment	0.75	0.00	0.00	0.00	0.00
33	Initial Investment	0.75	0.00	0.00	0.00	0.00
34	Initial Investment	0.75	0.00	0.00	0.00	0.00
35	Initial Investment	0.75	0.00	0.00	0.00	0.00
36	Initial Investment	0.75	0.00	0.00	0.00	0.00
37	Initial Investment	0.75	0.00	0.00	0.00	0.00
38	Initial Investment	0.75	0.00	0.00	0.00	0.00
39	Initial Investment	0.75	0.00	0.00	0.00	0.00
40	Initial Investment	0.75	0.00	0.00	0.00	0.00
41	Initial Investment	0.75	0.00	0.00	0.00	0.00
42	Initial Investment	0.75	0.00	0.00	0.00	0.00
43	Initial Investment	0.75	0.00	0.00	0.00	0.00
44	Initial Investment	0.75	0.00	0.00	0.00	0.00
45	Initial Investment	0.75	0.00	0.00	0.00	0.00
46	Initial Investment	0.75	0.00	0.00	0.00	0.00
47	Initial Investment	0.75	0.00	0.00	0.00	0.00
48	Initial Investment	0.75	0.00	0.00	0.00	0.00
49	Initial Investment	0.75	0.00	0.00	0.00	0.00
50	Initial Investment	0.75	0.00	0.00	0.00	0.00
51	Initial Investment	0.75	0.00	0.00	0.00	0.00
52	Initial Investment	0.75	0.00	0.00	0.00	0.00
53	Initial Investment	0.75	0.00	0.00	0.00	0.00
54	Initial Investment	0.75	0.00	0.00	0.00	0.00
55	Initial Investment	0.75	0.00	0.00	0.00	0.00
56	Initial Investment	0.75	0.00	0.00	0.00	0.00
57	Initial Investment	0.75	0.00	0.00	0.00	0.00
58	Initial Investment	0.75	0.00	0.00	0.00	0.00
59	Initial Investment	0.75	0.00	0.00	0.00	0.00
60	Initial Investment	0.75	0.00	0.00	0.00	0.00
61	Initial Investment	0.75	0.00	0.00	0.00	0.00
62	Initial Investment	0.75	0.00	0.00	0.00	0.00
63	Initial Investment	0.75	0.00	0.00	0.00	0.00
64	Initial Investment	0.75	0.00	0.00	0.00	0.00
65	Initial Investment	0.75	0.00	0.00	0.00	0.00
66	Initial Investment	0.75	0.00	0.00	0.00	0.00
67	Initial Investment	0.75	0.00	0.00	0.00	0.00
68	Initial Investment	0.75	0.00	0.00	0.00	0.00
69	Initial Investment	0.75	0.00	0.00	0.00	0.00
70	Initial Investment	0.75	0.00	0.00	0.00	0.00
71	Initial Investment	0.75	0.00	0.00	0.00	0.00
72	Initial Investment	0.75	0.00	0.00	0.00	0.00
73	Initial Investment	0.75	0.00	0.00	0.00	0.00
74	Initial Investment	0.75	0.00	0.00	0.00	0.00
75	Initial Investment	0.75	0.00	0.00	0.00	0.00
76	Initial Investment	0.75	0.00	0.00	0.00	0.00
77	Initial Investment	0.75	0.00	0.00	0.00	0.00
78	Initial Investment	0.75	0.00	0.00	0.00	0.00
79	Initial Investment	0.75	0.00	0.00	0.00	0.00
80	Initial Investment	0.75	0.00	0.00	0.00	0.00
81	Initial Investment	0.75	0.00	0.00	0.00	0.00
82	Initial Investment	0.75	0.00	0.00	0.00	0.00
83	Initial Investment	0.75	0.00	0.00	0.00	0.00
84	Initial Investment	0.75	0.00	0.00	0.00	0.00
85	Initial Investment	0.75	0.00	0.00	0.00	0.00
86	Initial Investment	0.75	0.00	0.00	0.00	0.00
87	Initial Investment	0.75	0.00	0.00	0.00	0.00
88	Initial Investment	0.75	0.00	0.00	0.00	0.00
89	Initial Investment	0.75	0.00	0.00	0.00	0.00
90	Initial Investment	0.75	0.00	0.00	0.00	0.00
91	Initial Investment	0.75	0.00	0.00	0.00	0.00
92	Initial Investment	0.75	0.00	0.00	0.00	0.00
93	Initial Investment	0.75	0.00	0.00	0.00	0.00
94	Initial Investment	0.75	0.00	0.00	0.00	0.00
95	Initial Investment	0.75	0.00	0.00	0.00	0.00
96	Initial Investment	0.75	0.00	0.00	0.00	0.00
97	Initial Investment	0.75	0.00	0.00	0.00	0.00
98	Initial Investment	0.75	0.00	0.00	0.00	0.00
99	Initial Investment	0.75	0.00	0.00	0.00	0.00
100	Initial Investment	0.75	0.00	0.00	0.00	0.00

Please clarify the difference in the VCS PD.

The corrective action request is still open.

Review 3:

IRR inputs are confirmed through the feasibility report in table 9.1.2.

The corrective action request is closed.

CAR22 Outcome Step 2 has not defined under investment analysis. "Outcome Step 2" is not added to VCS PD.		Outcome Step 2 added to the PD. Outcome of Step 2: Investment analysis confirms that the proposed project is not attractive for investment. Even the maximum IRR values calculated for the best-case scenario is considerably below the 15% benchmark. Thus, there is a strong need for additional revenues from carbon credits to implement the project.	Review 1: Outcome step 2 added to the VCS PD. <u>The corrective action request is closed.</u>
CAR23 Under Sub-step 4b, please specify the similar projects at Mersin province by the objective evidences. References are not clear.			Review 1: F factor calculation is used for the common practice calculation. <u>The corrective action request is closed.</u>

CAR24 Outcome Step 4 is not mentioned in the VCS PD. “Outcome Step 4” is not added to VCS PD.		Outcome Step 4 is added. Based on the requirement in the CDM Validation and Verification Manual Version 1.2, paragraph 119, page 23, common practice analysis is not applied to the project given that it is a small scale project. CDM Validation and Verification Manual Version 1.2, paragraph 119, page 23 states that “For proposed large-scale project activities, unless the proposed project type is first-of-itskind as determined in accordance with the relevant guidelines, the DOE shall assess whether the project participants have conducted a common practice analysis.” Statement only concerns about the large scale projects, not small ones.	Review 1: F factor is calculated as 0.34 and Nall-Ndiff is calculated as 50. F should be smaller than 0.2 and Nall-Ndiff should be smaller than 3 through “GUIDELINES ON COMMON PRACTICE”. Please check the calculations. <u>The corrective action request is still open.</u> Review 2: CDM Validation and Verification Manual Version 1.2, paragraph 119, page 23 states that “For proposed large-scale project activities, unless the proposed project type is first-of-itskind as determined in accordance with the relevant guidelines, the DOE shall assess whether the project participants have conducted a common practice analysis.” <u>The corrective action request is closed.</u>
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CAR25 Project timeline is not provided in the VCS PD. The starting date of the VCS project activity is not provided through the objective evidences.		Project is in construction phase and it is expected that commission will be January 2014. Therefore project start date is accepted as 1.1.2014 in the PD. Whole PD is corrected (1st April 2013 deleted, 01.01.2014 added)	Review 1: Not responded. <u>The corrective action request is still open.</u> Review 2: Project start date is revised as 01.01.2014. Please correct the project start date in related section. It is given as 1st April 2013 in these sections. <u>The corrective action request is still open.</u> Review 3: The project start date is revised as 01.01.2014 in related sections. <u>The corrective action request is closed.</u>
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CAR26 The PLF (Plant Load Factor) is not added to VCS PD.		PLF is added. PLF is added. Following added.. Plant Load Factor of Dagbasi HEPP is 0.408. Plant Load Factor is determined by dividing the plant actual output with the maximum possible output. $PLF = \frac{38\,446 \text{ MWh}}{(365 \text{ day}) \times (24 \text{ hr/day}) \times (10\,756 \text{ MW})}$ PLF=0.408 PLF=%40.8 Where 38 446 is Dagbasi HEPP expected energy generation per year, and 10 756 is the Dagbasi HEPP project power capacity. PLEASE NOTE THAT this is the only PLF calculation that we can provide now. Once Dagbasi HEPP become operational, then actual energy generation data will be obtained. Based on this real data, PLF calculation will be done correctly. All we can do now is to make theoretical PLF calculation.	<u>Review 1:</u> Please provide PLF calculation method under Sub-step 2c by objective evidences. <u>The corrective action request is still open.</u> <u>Review 2:</u> PLF is calculated through the objective evidences. <u>The corrective action request is closed.</u>
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CAR27 In the monitoring plan only E_{Gy} parameter is defined. The following parameters are not added to the monitoring plan; 1) C_{appj} is the Installed capacity of HEPP 2) A_{pj} is the Area of reservoir. Also the EF_{grid,CM,y} is not added to the data and parameters available at validation section.		These parameters are added to the Monitoring Plan.	Review 1: C_{appj} and A_{pj} parameters are added under section 4.2 of the VCS PD. Also EF_{grid,CM,y} is added under section 4.1 of the VCS PD. <u>The corrective action request is closed.</u>
CAR28 System Usage agreement between the TEIAS and Project owner is not provided to the validation team. On the other hand Cross-check process is not described under the QA/QC procedures and Description of the monitoring plan.		Following sentence added to the Section 4.3. TEIAS invoices will be used for monitoring to determine the Dagbasi HEPP annual emission reductions. PMUM settlement web site data will be used for cross-checking.	Review 1: The system usage agreement dd. 14/06/2013 is provided to the validation team. TEIAS invoices will be used for monitoring and PMUM data will be used for cross-checking. <u>The corrective action request is closed.</u>

CAR29 1. Please state if there is any Loss & Pilferage Rate is used and if it is used please indicate the rate in the IRR analysis. If it is not used please explain why it is not used. 2. Please explain why the system connection fee is 0. If it is deducted by the Energy Transmission Line investment, please indicate this both in IRR analysis and VCS PD. 3. Please calculate insurance cost for the construction phase as well. 4. Please check the interest expense calculations. Please take a look at the Int_Pmt_Calc.xlsx file and give a comment on this CAR accordingly. Int_Pmt_Calc.rar 5. The file at the link stated in VCS PD couldn't be opened. Please deliver the file in a separate file.		IRR excel sheet is provided "Dagbasi IRR Analysis Rev 3.0.xlsm". 1 Loss & Pilferage Rate is not used. By not using it, IRR calculation became more conservative. 2 Connection fee is added to the calculations. Connection fee is taken as zero to stay on the critical side. 3 Insurance cost is added to the IRR calculations. 4 Dagbasi IRR calculation is corrected as per the the Int_Pmt_Calc.xlsx. 5 Not clear. Please define the name of the file. 6 Dagbasi project interest rate was assumed as 6% which was the average market value by that time. However, in Dagbasi HEPP Feasibility Report, this value was taken as 9.5% as stated by DSI to be used in feasibility calculations of HEPP projects. To stay on the conservative side, it was taken as 6% in Dagbasi VCS PDD report. 7 There is no VAT asset. 8 Depreciation cost is taken into IRR calculations. 9 Reference for the exchange rates is Dagbasi HEPP Feasibility Report, Section 1, pp.2. 10 Depreciation periods for the Electromechanic equipment and transmission lines were taken as 20 year.	Review 1: 1 OK 2 OK 3 Since the IRR calculation sheet is not provided, it couldn't be checked whether is figure is effective on the calculations. Not closed 4 Since the IRR calculation sheet is not provided, it couldn't be checked whether it is corrected or not? Not closed 5 OK 6 6% is OK 7 OK 8 Since the IRR calculation sheet is not provided, it couldn't be checked if it is corrected. Not closed 9 OK 10 Since the IRR calculation sheet is not provided, it couldn't be checked if it is corrected. Not closed <u>The corrective action request is still open.</u>
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6. Interest rate for the debt seems very low. Please justify the rate with some arguments and documents. 7. Please clarify if there are VATs on the asset items or not? 8. Please calculate the fair value by subtracting the total depreciation figure from the original asset value at the end of analysis period. 9. Please give the reference date for the exchange rates taken. 10. Depreciation periods for the Electromechanic equipments and transmission lines should be 15 and 30 years separately. Please give reference for the depreciation periods used in the analysis.		 IRR Excel sheet is corrected as per the comment.	<u>Review 2:</u> The previous Int_Pmt faiz calculations are correct for the project activity. These calculations should be transfer to the IRR folder correctly. <u>The corrective action request is still open.</u> <u>Review 3:</u> 8. Nothing is changed in the IRR analysis. Please calculate salvage value by subtracting the total depreciation from the original asset value at the end of analysis period. <u>Not closed</u> 10. Nothing is changed in the IRR analysis. Depreciation periods for the Electromechanic equipments and transmission lines should be 15 and 30 years separately. <u>Not closed</u> <u>The corrective action request is still open.</u> <u>Review 4:</u> Corrections have been done <u>The corrective action request is closed.</u>
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CAR30 Accuracy of Emission Reduction Calculations The discussion, findings and conclusion regarding spread sheet formulas and connections, conversions, aggregations, consistent use of factors in line with the monitoring plan, possible manual transposition errors between data sets, uncertainty of technology (e.g. metering) and appropriateness of default data where specific source data is lacking should be summarised in this section. OM Calculations: The OM calculations are OK BM Calculations: The TOOL v02.2.1 states that the choice of plants to be included in the BM calculations should be based on 20% of the annual electricity generation excluding units registered as CDM project activities. To paraphrase:		PD and EF calculations are revised according to the CAR30.	<u>Review 1:</u> The necessary changes have been made. <u>The corrective action request is closed.</u>
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Determine the annual electricity generation of the project electricity system, excluding power units registered as CDM project activities (AEGtotal, in MWh). Identify the set of power units, excluding power units registered as CDM project activities, that started to supply electricity to the grid most recently and that comprise 20% of AEGtotal (if 20% falls on part of the generation of a unit, the generation of that unit is fully included in the calculation) (SET≥20%) and determine their annual electricity generation (AEGSET-≥20%, in MWh); The calculation of the 20%, however, has been based on annual electricity generation including the CDM project activities. Although the registered CDM/VER activities have been subtracted from the resulting generation figure, it brings a distortion. Quality of Evidence to Determine Emission Reductions The discussion, findings and conclusion related to that the evidence is of sufficient quantity and appropriate quality, the reliability of the evidence and the source and nature of the evidence (external/internal, oral, documented) should be summarised in this section.			
CL01 Dagbasi HEPP is located in the Mediterranean Region in Turkey. Project is in the boundary of the Anamur District of province of Mersin. Project site is about 45 km north of the centre of Anamur District. GPS coordinates for the Dagbasi Weir and powerhouse is given in the VCS PD. There is no reference for the GPS coordinates.		Ref added.	Review 1: The reference for the GPS coordinates is added under section 1.9 of the VCS PD. <u>The clarification request is closed.</u>

CL02 All conditions are not described prior to project initiation in the VCS PD under section 1.10		Related section is revised as given below: Dagbasi HEPP project site is located at about 45 km of Anamur district on the Dragon river. Project site is in a rocky area where there was no settlement before the project. The closest residential area is Sugoza village which is horizontally 2-3 km away from the project site and located at a much higher elevation. Therefore project site has no direct effect on the village life. Since project site is rocky where few trees exist, mostly covered with small plants like <i>maki</i>, there was no activity within the site. Only activity is fish farming, but they are located at the downstream of the projects. Project has no expropriation, however project owner compensated the Ministry for Environment and Forest for the value of trees to be planted somewhere. Project is a newly implemented renewable energy project. Main purpose is utilization of hydraulic potential of Turkey to meet the increasing demand for energy. Project activity is not implemented for subsequent reduction of GHG. Project is a hydro power plant implemented to generate electricity from renewable resources.	Review 1: A condition prior to project initiation is defined under section 1.10 of the VCS PD. <u>The clarification request is closed.</u>
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CL03 The description of how the project will achieve GHG emission reduction under section 1.8 “Description of the Project Activity” is not added.		Related section is revised as including following paragraph: Project will generate GHG emission free, clean electricity, feeding into the national Turkish grid where all Turkish power plants are connected and are dispatched centrally by the Turkish grid operator, Turkish Electricity Transmission Incorporation. Electricity supplied to the national grid is dominated by thermal power plants. Electricity generated by the Dagbasi HEPP project will displace power generation by thermal power plants, which leads to savings in fuel combustion and thus to the reduction of GHG emissions, as specified and explained in detail in Section 3 below.	Review 1: How the project will achieve GHG emission reduction definition is added under section 1.8 of the VCS PD. <u>The clarification request is closed.</u>
CL04 Project technologies are described under section 1.8 of the VCS PD. There is no reference for Table 1 “Technical Characteristics of Dagbasi HEPP.”		Reference added. Reference for Table 1 correct. I created the Table 1 based on the data provided in pages between 4-9. Please let me know which data in Table 1 you could not find from the Dagbasi Feasibility, section1, page 4-9.	Review 1: Table 1 reference are not correct. Please check the reference and correct it. <u>The clarification request is still open.</u> Review 2: Reference is correctly provided. <u>The clarification request is closed.</u>
CL05 Relevant local laws and regulations related to the project and demonstration of compliance with them are added under section 1.11 of the VCS PD. References are not available.		References revised.	Review 1: References are provided correctly. <u>The clarification request is closed.</u>

CL06 Under section 4.2 of the VCS PD, The value applied data is not line with the feasibility report.		Value is revised to 38.446 GWh (originally it was 38.45 GWh)	Review 1: The value is revised as 38.446 through the feasibility report dd.2009. <u>The clarification request is closed.</u>
CL07 The estimation of the emission reductions are given in a tabular format under section 1.7 of the VCS PD. The emission reduction values are not described through the revised annual electricity generation under section 1.7 and excel calculation sheet.		Section 1.7 is revised. EF calculation excel sheet is revised. Excel sheet and PD are in line now. Mistakes corrected. Project start date is 1 Jan 2014 and PD document is updated (1st April 2013 deleted, 1 Jan 2014 added through PD)	Review 1: 2013 and the 2023 estimations are not line with between excel sheet and VCS PD. Please check. <u>The clarification request is still open.</u> Review 2: In related sections project start date is still given as 1st April 2013. Please check and correct. <u>The clarification request is still open.</u> Review 3: The project start date is revised as 1 Jun 2014 in related sections. <u>The clarification request is closed.</u>

CL08 Dagbasi HEPP is a small scale renewable type energy generation project with installed capacity of 10.75 MW; and it will, in the future, remain below the eligibility limit of 15 MW for renewable type small scale CDM projects as well. This definition will accepted through the correct capacity is defined.		PLEASE SEE CAR02 FOR EXPLANATION Capacity is revised to MWe (from 10.756 MW to 10.433 MWe)	Review 1: The project capacity is revised as 10.433 MWe. Please define the capacity through the capacity of generator line with the EB 61 Annex 21. Capacity should be defined by multiplying generator capacity and power factor by objective references. <u>The clarification request is still open.</u> Review 2: Please see CAR02. <u>The clarification request is still open.</u> Review 3: CAR02 is closed. <u>The clarification request is closed.</u>
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CL09 The selected baseline scenario is the only option for the project activity. GHG emission share of thermal power generation is defined as %75 in 2009 in 22nd reference. This reference is not available please clarify.		Reference page number and related paragraph in the PD is revised: I could not find the reference about “thermal power generation percentage in Turkey which was stated as %75 in 2009”. That is a mistake done during PD preparation. I have searched various internet sources as well as reports; now I do not remember where I have taken this info. Therefore I have changed the PD content as below based on the 22nd reference. Please accept the following paragraph. In Turkey, greatest source of GHG emissions is fossil fuel-based power generation. According to the <i>National Experience on Carbon Market and Future Perspectives</i> report published in 2011 by the Ministry of Environment and Urbanization, GHG emission share of thermal power generation is 82.5% in 2008 (366.5 Million Ton CO₂). The continuing reliance on fossil fuels in the power sector will further rise the GHG emissions in the coming years.	Review 1: The definition is revised according to the reference. <u>The clarification request is closed.</u>
CL10 References are given under section 4.1. References are not provided.		References are provided.	Review 1: References are provided correctly. <u>The clarification request is closed.</u>

CL11 Under section 1.8 the project lifetime is defined as 49 years. Project lifetime is not described.		<u>Following added to Section 1.8</u> Legally project lifetime is 49 years. In other words, Dagbasi HEPP investor can operate this project for 49 years; beyond this time period, investor has to make a new agreement with the government to be able to continue to operate the plant. However, from the technical point of view, project life time can be referred to the lifetime of turbine. All construction elements have a lifetime of 45 years according to the DSI Report The only element having shortest lifetime is turbine which is defined as 150 000 in UNFCC CDM EB50-Annex 15. So the technical lifetime of the Dagbasi HEPP Project is 150 000 hr (approximately 17 years). However, since turbines will not operate continuously, this value can be accepted as 20 years which is equal to the time period to which it is being applied for carbon certification to VCS (2 times 10 year. Please see Section 1.6 of this report). As a note, Dagbasi HEPP project has not started to operation yet; so technical remaining lifetime of the project is also 150 000 hr in this case.	Review 1: Please define the project lifetime through the EB 50 Annex 15 “Tool to determine the remaining lifetime of equipment” under section 1.8 of the VCS PD. <u>The clarification request is still open.</u> Review 2: The lifetime of the project activity is provided through objective references. <u>The clarification request is closed.</u>
CL12 In Annex III references are not clear.		References are provided.	Review 1: References are applied correctly. <u>The clarification request is closed.</u>

CL13 the emission reduction calculations are not provided in a conservative estimate.		PD is revised accordingly. Calculations round down after the coma.	Review 1: Corrections have been done. <u>The clarification request is closed.</u>
CL14 All data are provided from official sources for the emission reduction calculations but the references are not available.		References are provided.	Review 1: References are correctly provided. <u>The clarification request is closed.</u>
CL15 Option II is applicable if there are alternatives to the project activity. In this case, Dagbasi HEPP does not have alternatives. Only viable alternative is the "No Activity". Therefore, investment analysis is not applicable to this alternative. As a result Option III (Benchmark Analysis) is applicable to the Dagbasi HEPP project. Equity IRR is selected for the benchmark analysis, but under the Benchmark analysis Benchmark IRR is defined, Equity IRR and Benchmark IRR are different terms, please clarify.		PD is revised: Equity IRR is deleted.	Review 1: Benchmark IRR is selected. <u>The clarification request is closed.</u>
CL16 The project IRR without carbon revenue is calculated as 9.24% which is lower than the benchmark IRR of 15%. After revisions please also define the project IRR with carbon revenue and compare with the Benchmark IRR.		Carbon removal became 20 372 tonC/year after revision. Assuming there will be 1.5 USD/tCO2 carbon revenue, project IRR become 9.40% still lower than the benchmark value.	Review 1: The definition is added under Sub-step 2c. <u>The clarification request is closed.</u>
CL17 The other activities similar to the proposed project activity are analyzed under Sub-step 4a. Public available references are not available and there is not provided reference for the Table 7 "Installed Capacity by 2010 (MW)"		References are provided.	Review 1: References are corrected. <u>The clarification request is closed.</u>