Voluntary Carbon Standard 2007
Validation Report

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Validation Report:

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Validation Report for "Otluca HPPs Run-of-River Hydro Project"	Burcu Mutman
Client:	**Project Title:**
Beyobası Enerji Uretim A.S.	"Otluca HPPs Run-of-River Hydro Project"

Summary:

Bureau Veritas Certification has made the validation of "Otluca HPPs Run-of-River Hydro Project". The project activity involves the installation of a 46 MWe hydroelectric power plant (HEPP) located on the Anamur River in the province of Mersin, Turkey. The project comes under Type-I Renewable Energy Project as per Appendix B of the procedures for CDM project activities. The expected annual emission reduction is 123,003 tonnes of CO_2e (tCO_2e). The crediting period of the project activity is 10 years, renewable twice for a total of 30 years.

The validation scope is defined as an independent and objective review of the VCS project description, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following five phases: i) desk review of the project design and the baseline and monitoring plan; ii) Review of the baseline methodology by the specialist and the validator; iii) Review of the investment analysis by the specialist and the validator iv) follow-up interviews and on site visit; v) resolution of outstanding issues and 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 Annex II in the Validation Protocol. Taking into account this output, the project proponent revised its VCS project description. In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology ACM0002, version 12 and meets the relevant VCS 2007.1 requirements and local legislation.

Work carried out by:	Number of pages:
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1 Introduction

This report summarizes the findings of the validation of the "Otluca HPPs Run-of-River Hydro Project" project, performed on the basis of VCS 2007.1 criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The validation serves as project design verification and is a requirement of all voluntary emission reduction 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 VCS criteria which are validated in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Validation is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Voluntary Carbon Units (VCUs).

1.2 Scope and Criteria

The validation scope is defined as an independent and objective review of the VCS project description, the project's baseline study and monitoring plan, the project's investment analysis and other relevant documents. The information in these documents is reviewed against the methodologies and tools that are given under the Clean Development Mechanism of Kyoto Protocol, VCS 2007.1 rules and associated interpretations. The validation is not meant to provide any consulting towards the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 VCS project Description

The project activity involves the installation of a 46 MWe hydroelectric power plant (HEPP) located on the Anamur River in the province of Mersin, Turkey. The project comes under Type-I Renewable Energy Project as per Appendix B of the procedures for CDM project activities. The main purpose of the project is to generate approximately 224,000 MWh/year of electricity to supply the national grid using a renewable resource and tapping the significant hydropower potential in the region. The project activity reduces greenhouse gas (GHG) emissions that would have otherwise occurred in the absence of the project activity by avoiding electricity generation from fossil fuel sources. The average annual emission reductions of the proposed Project are estimated to be 123,003 tonnes of CO_2e (tCO_2e). The crediting period of the project activity is 10 years, renewable twice for a total of 30 years.

The Turbine type will be Francis vertical axis for Otluca 1 (3 turbines of total capacity 36.9 MWe)and Otluca 2 (3 turbines of total capacity 5.8 MWe) and Francis horizontal axis for Boğuntu (3 turbines of total capacity 3.3 MWe).

The objective of Otluca HPPs is the creation of carbon friendly energy generation capacity via realization of a hydro-project, the main purpose is not to create GHG emissions primarily for the purpose of its subsequent removal or destruction demonstrated.

1.4 Level of assurance

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

2 Methodology

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. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements of a VCS 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.

2.1 Review of Document

The Project Description (PD) submitted by Beyobası Enerji Uretim A.S. and additional background documents related to the project design and baseline, i.e. relevant law, VCS Project Description Template, Approved Methodology and tools under the CDM of Kyoto Protocol, Clarifications (CL) and Corrective Action Requests (CAR) on validation requirements were reviewed.

To address Bureau Veritas Certification corrective action requests and clarification requests, Beyobası Enerji revised the PD several times, VCS PD version 08 dated 22.08.2011 being the last version, which was submitted to the validation team on 22.08.2011. After further clarifications, all corrective action requests and clarification requests were closed on 24.08.2011. The validation of the Project resulted in 21 Corrective Action Requests, 47 Clarification Requests and 1 Forwarded Action Request.

All documents were reviewed under the requirements of the CDM Methodologies as these methodologies are approved under the VCS.

2.2 Follow-up Interviews

In September 2010 Bureau Veritas Certification performed interviews with Beyobası Enerji and local stakeholders regarding the Grid emission factor, Investment Analysis, project specific questions and Clarification and Corrective Actions Requests documented in the validation protocol. A list of the persons interviewed is given under section 5.2 of this report. After the discussions, the validation team closed on 24.08.2011 all documented CL and CAR in the validation protocol.

2.3 Resolution of any material discrepancy

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

3 Validation Findings

3.1 Project Design

Bureau Veritas Certification recognizes that Beyobası Enerji, which is the project participant, is helping the country in fulfilling its goals of promoting sustainable development with this project. The project is in line with country specific requirements. In addition, the project highly supports the sustainable economic development in the region.

It was validated during the site visit that the project description given in the VCS PD version 08 is accurate.

Otluca HPPs is not a debundled component of a larger project activity. The project activity is neither in existing facilities nor in utilizing existing equipment. During the site visit, it was confirmed that project activity is a greenfield project.
The conclusions of the validation team are as follows:

- *The technology used:*

Otluca HPPs project entails the construction and operation of a 46 MWe hydroelectric power plant (HEPP) on Anamur River in the province of Mersin, Turkey. The location of the project activity was validated during the site visit.

Otluca HPPs consist of three sub projects: Otluca-1, Otluca-2 and Boguntu.

Otluca 1 takes water from Anamur river and water enters a tunnel of about 3.8 km length followed by an open canal of about 500 m length and followed again by a tunnel of about 2.2 km length until the water reaches a headpond. An intake from this pond takes it through a 507 m long penstock to the powerhouse. The combined capacity of the 3 turbines of Otluca 1 is 36.9 MW.

Boğuntu uses the water of the Boğuntu River (tributary of the Anamur River). It has one de-sanding basin, starts with 162 m long open canal and continues with a 1.5 km long headrace tunnel to a headpond. The penstock is about 94 m long and leads with a head of 67.6 m to a power plant with 3 turbines. The installed capacity is 3.3 MW.

Otluca-2 is located only some 500 m downstream from where Otluca 1 and Boğuntu Projects feed the water back into the Anamur River. Otluca-2 diverts the water again to an intake structure and into three settlement ponds before it enters the conveyance system consisting out of 2 tunnels and 2 canals of an overall length of 1,547 m, out of which 1,137 m are tunnel. The water arrives at a headpond and feeds through a 57 m long penstock the powerhouse with 29.4 m head and 3 turbines. The combined installed capacity of 5.8 MW.

The net electricity delivery to the grid by the project is estimated to be 224,000 MWh per annum.

The equipment that are used in the project are all first-hand. There is no new technology, which is expected to replace the plant's technology in the short run.

As a result, validation team approves that the technology used in the project activity is state of the art and all the equipment used in the project are new.

- *Project duration, crediting time and project start date*

Otluca-1 part of the project activity is implemented on 07/04/2011 as was validated through the "Provisional Acceptance Certificate" approved by The Ministry of Energy and Natural Resources. At the time of this validation report, only Otluca-1 plant begin to generate electricity. Document is provided to DOE.

The carbon crediting period and therefore the monitoring starts when the plant commences electricity generation. The crediting life is a maximum of ten years that may be renewed at most two times.

- *Ownership*

The Otluca HPPs are operated and owned by Beyobası Enerji Uretim A.S. and the generation license belongs to Beyobası Enerji Uretim A.S. A copy of the generation license is provided to DOE.

The project did not participate in any other GHG emission reduction program. The validation team approves that there is no double counting involved in this project activity during this validation.

- *Eligibility of the project activity under VCS*

The project comes under Type I – Renewable Energy Project as per Appendix B of the procedures for CDM project activities. The project is a 46 MWe HEPP and it uses renewable sources to produce electricity. Since the installed capacity of the planned HEPP is greater than 15 MW; it is a large scale renewable energy project activity according to the Decision 17/ CP.7 Article 6. As per the justifications given above, the project activity is eligible under VCS. The project is not a grouped project.

3.2 Baseline

- *Approval of the baseline methodology:*

The baseline for "Otluca HPPs Run-of-River Hydro Project" project is established by using the UNFCCC official methodology ACM0002, version 12, namely "Grid connected renewable electricity generation".

For the calculation of the grid emission factor, UNFCCC Methodological Tool "Tool to Calculate Emission Factor of an Electricity System" version 02 is used.

For the assessment and demonstration of additionality, UNFCCC Methodological Tool "Tool for the Demonstration and Assessment of Additionality", Version 05.2 is used.

Both of the tools are referred in the applied methodology.

The PD was first submitted on 14/07/2010. Both the tools and the methodology are the latest available versions at the time of PD submission to the DOE, and are found appropriate by the validation team. Clean Development Mechanism Methodologies are approved under the VCS program.

- *Correct application and justification of baseline methodology:*

The choice of methodology ACM0002, version 12, is justified as the proposed project activity meets relevant applicability criteria:

- Otluca HPPs Run-of-River Hydro Project is a Greenfield renewable energy power plant
- The project results in construction of a new reservoir with a power density greater than 4 W/m2
- The project activity is not capacity additions, retrofits or replacements
- The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m^2.
- Project activities do not involve switching from fossil fuels to renewable energy sources at the site of the project activity.

- Project activity is not a biomass fired power plant.

The baseline scenario was applied correctly and the justification for the choice of the baseline methodology is found appropriate by the validation team.

- *Appropriate setting of baseline scenario*

  The baseline scenario is defined as follows:

"*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."*

The defined baseline scenario is in line with the methodology.

The above setting of the baseline scenario is found appropriate by the validation team.

- *Assessment and demonstration of additionality:*

  The assessment and demonstration of additionality of the project is done by using UNFCCC Methodological Tool "Tool for the Demonstration and Assessment of Additionality", Version 05.2. In applying this tool under Step 1a, the following four alternatives are identified as the alternative scenarios that are likely to happen in the absence of the project activity:

  Alternative (a) : The proposed project activity undertaken without being registered as a VER project activity

  Alternative (b) : Other energy project(s) that could also deliver electricity with comparable quality, properties

  Alternative (c) : Continuation of the current situation, i.e. Otluca HPPs hydro project is not built

From the above mentioned alternatives (a) and (c) are assessed to be realistic and credible alternatives. Alternative (b) is eliminated since there are no evidences that built capacity will increase on behalf of renewable energy.

Analyzing the alternatives that are defined as realistic, it is seen that all scenarios are consistent with the baseline definition of ACM0002, version 12. All of the alternatives comply with legal requirements, as they are practices currently present in the host country.

The project proponent used Step 2 'Investment Analysis' for the demonstration of the additionality of the project activity.

Under Step 2-Investment Analysis there are four sub-steps.

Under sub-step 2a, Benchmark Analysis (Option III) is chosen. This chosen is also assessed to be appropriate by the validation team. The simple cost analysis (Option I) cannot be taken since the proposed project generates financial and economic benefits through the sales of electricity other than Voluntary Emissions Reduction (VCS-VER) related income. (Option II) is only applicable to projects where alternatives should be similar investment projects.

Under sub-step 2b, Equity IRR is selected as a financial indicator *for the demonstration of the additionality of the project as permitted in the tool. Benchmark is* Worldbank loan appraisal document and threshold equity IRR for hydropower investments (i.e. required returns of equity for hydro power investors) in Turkey is 15%. The selected benchmark is assessed to be applicable to the type of IRR

calculated as per the guidelines given in 'The tool for the demonstration and assessment of additionality'.

Hence, the benchmark is assessed to be appropriate by the validation team and the financial expert.

Under sub-step 2c, the Equity IRR is calculated. Project proponents have also submitted an excel sheet showing the details of the calculations. Some revisions have been made to these calculations until the latest version, which was submitted to the validation team together with the final VCS PD.

The investment decision date of civil works agreement with Ozdemir Insaat dated 4 January 2008. The reference documents for the IRR input were submitted to the validation team. "Loan Proposal of ABN-AMRO dated 24.12.2007" and "Feasibility Report" dated 2007" were provided to the validation team. The inputs were validated through the provided documents.

Production license is for 48 years and 6 months, IRR is calculated for 48 years. In line with EB50 Annex 15, operational lifetime of the equipment is calculated as 31 years. This is on the conservative side as it reflects the reality and the calculations are not limited to the crediting period.

The documents used to validate all the assumptions in IRR calculation are given below.

Parameters	Validated Value	Means of validation
Annual electricity generation	224,000 MWh	Generation License dated July 2007 and Electromechanical proposal dated February 2008
Installed Power	23,7 MW	
Electricity sales price	0.055 €/kWh	The minimum purchase guarantee of the State
Parity of USD/TL	1,1566 $/TL	The average value is at the time of investment decision date. This value was validated through the Turkey Central Bank website.
Parity of Euro/USD	1,4711 €/$	
Parity of Euro/TL	1,7015 €/TL	
Depreciation periods		
Civil Works	40 years	Local rules and regulations
Electromechanical and Hydromechanical Equipments	15 years	
Transmission Lines	10 years	
Costs		
Civil Works	49.069.709 €	FSR dated 2007
Electromechanical Equipments	12.142.604 €	FSR dated 2007
Operation and Maintenance Cost	1.575.972 €/year	The "Operation and Maintenance Cost" that is assumed as 50 $/kW is based on a report prepared by a university professor. The report is special to the hydro projects and found acceptable by the validation team.
System Usage and Management Fee	13.540 €	The system usage fee is calculated as per the EMRA regulation and was validated through the EMRA website.
Loan		
Equity Share	25.0%	Loan Proposal of ABN-AMRO dated 24.12.2007
Loan Interest	7.35%	
Loan Term	10 years	
Grace Period	2 years	

IRR is 9.71.

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

- Electricity Price
- Investment Costs
- Energy Yield
- Operating Cost

for a decrease of 10% and for an increase of 10%.

According to this sensitivity analysis;

The IRR of the project activity rises up to 11.24% when electricity price raises 10%. The IRR value decreases with the decrease of the electricity price down to 8.20%.

The IRR of the project activity rises up to 11.19% when the investment costs decrease 10%. The IRR value decreases with the rise of the investment costs down to 8.52%.

When energy yield raises 10%, the IRR of the project activity rises up to 11.24%. The IRR value decreases with the decrease of the energy yield down to 8.20%.

The IRR of the project activity rises up to 10.87% when the construction costs decrease. The IRR value decreases with the rise of the operating costs down to 8.74%.

The above sensitivity analysis reveals the fact that no alternative scenario without VER revenues can make the project pass the benchmark IRR expectation that is 15.00%. Therefore, the project is not financially attractive.

- *The common practice analysis:*
  Under the common practice analysis section of the PD, annual development of Turkey's installed capacity and all hydro projects in operation belonging to independent power plants are provided.

First, an analysis of annual development of Turkey's installed capacity is provided. The growing ratio of thermal power plants is compared to the growing ratio of hydro power plants between the 1990-2008 years. The analysis shows that over the time ratio of hydro-generated electricity in the overall electricity generation has decreased historically from 40.2% by 1990 to 16.8% by the end of 2008. The statement was validated through the TEIAS statistics.

A breakdown of Installed Capacity of Turkey by the end of 2008 is provided. Majority of electricity producers in Turkey are either state-owned companies or operating with different business models (including long-term purchase guarantees from state-owned companies. Only 1.93% of the installed capacity is potentially similar to Otluca HPPs. The number is found by dividing hydro capacity under the topic of Generation companies by total capacity.

These similar hydro projects in operation belonging to independent power plants by the end of the 2008 are analyzed. There are 2 HPPs in operation in Mersin and Karaman provinces by the end of 2008. One of them (Pamuk HEPP) is small in capacity so it cannot be considered as similar. The other (Birkapılı) first applied for an autoproducer licence and it cannot be considered similar. Otluca (consists of three smaller projects) is more complicated than these projects. None of these projects are similar to Otluca.

There is no similar project with proposed project. The validation team has concluded that the proposed project activity is not common practice in the region due to the reasons that are explained above.

3.3 Monitoring Plan

- *Approval of the monitoring methodology:*

The Monitoring Plan used for determining the emission reduction by the Project is based on the approved methodology ACM0002 version 12. All the applicability conditions of the monitoring methodology are the same as the applicability conditions of the baseline methodology that are given under section 3.2 of this validation report. The data will be archived electronically and be kept at least for 2 years after the end of the last crediting period. All measurements will be conducted with calibrated measurement equipment according to relevant industry standards.

- *Correct application and justification of the selected monitoring methodology:*

The justification of the choice is explained in section 3.2 of this validation report. The monitoring methodology is applied correctly and appropriately.

- *Information about monitoring plan is as follows:*

The measurement method follows Article 81 of the official regulation "Electricity Market Balancing and Settlement Regulation. 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.

The main data that should be monitored is the amount of electricity ($EG_{facility,y}$) that is annually fed into the grid by the plant. The project owner, Beyobası, has already signed an agreement with distribution company that includes measuring the amount of electricity that goes to the system accurately by the help of electricity meters which are installed by TEIAS. Two electricity meters (one main and one reserve) are placed at the substation. The meters were sealed by the distribution company and the project owner has no control over, or access to the measurement devices and cannot perform any type of maintenance or calibration. The meters give the total gross electricity generated and the total electricity consumed by the hydro power plant. The difference of these two data is the net electricity generated.

At the end of one monitoring period, which is planned to generally last one year, the data from the monthly meter reading records will be added up to the yearly net electricity generation and multiplied with the combined margin emission factor with the help of an excel spreadsheet that also contains the combined margin calculation. Thus, the complete baseline approach is always transparent and traceable. Data monitored will be kept in electronic form and hard copy until the end of second year after the end of crediting period.

Based on the sales agreement, there is no need for an additional process or equipment to monitor the data. Meters are read by TEIAS staff monthly, a protocol is prepared and signed by both on site by technicians and TEIAS staff.The generation data is stored by PMUM on the web site. The Project owner has an ID and password to access this data on the web site. For monitoring, the monthly settlement notification of PMUM shall be used as source of data.

Technicians in Otluca HPP daily reads meters and keeps record for electricity generation amount and reports to management. The net electricity supplied to the grid is crosschecked with these internal records and also PMUM data obtained from TEIAS web page (http://pmum.teias.gov.tr) using the ID and password of the project owner.

In case of a major failure at both metering at the same time, electricity generation by the plant since the last measurement will be able to be monitored by another metering device at the inlet of the main substation operated by TEIAS where the electricity is fed to the grid. Third meter is not a property of the company but TEIAS. The fact that two meters are installed keeps the uncertainty level of the only parameter for baseline calculation low.

Besides, Ministry of Trade and Industry (Ministry) is responsible for control and calibration of the meters. Accuracy of the maters is defined under the Article 11 of the Communiqué for meters in electricity market. Main meter is 0.5S and the second meter is 0.5 As defined in the regulation. According to "Regulation of Metering and Testing of Metering Systems" periodic calibration of the meters will be done every 10 years.

A FAR is raised for the observation on site how the possible deviations between two meters is monitored by Camlica elektrik and in which cases action is taken.

If it is suspected that meters are not working appropriately tests of the meters will be done in presence of both parties. If, after controls, it is seen that the meter is not working appropriately, the measurements of reserve meters are taken into account beginning from the last measurement value when both meters are reading the same.

Also as the Combined Margin emission factor is calculated ex-ante, the parameters used in the calculation of the emission factor is also included in the monitoring plan, but the frequency of monitoring for these parameters are once for each crediting period as per the definitions in the "Tool to calculate the emission factor for an electricity system".

Overall the monitoring methodology is found appropriate and suitable for this particular project activity.

Monitoring of installed capacity and reservoir area are also planned. Installed capacity will be monitored from Turbine/Generator Supply Agreement.

Reservoir area will be monitored with one of the ways of topographical surveys / maps, satellite pictures.

3.4 Calculation of GHG Emissions

Anthropogenic emission reduction is a function of the expected net amount of electricity produced, for the given project, which amounts to 224,000 MWh per annum. The annual emission reduction is 123,003 tCO_2e. Over the period of ten years, the total amount of emission reduction will reach 1,213,064 tCO_2e. For all calculations, the rounded value of the combined emission factor, 0.5491 tCO_2/MWh is applied.

37.54 MW of the Otluca project (namely Otluca-1) started to generate electricity since April 2011 which is stated in the provisional acceptance certificate. Rest of the project (Otluca-2 and Boguntu) will be in operation in the beginning of the 2012.

As the working installed capacity is different in year 2011, emission reductions for this year are calculated with some adjustments. First of all installed capacity is corrected as 37.54 MW (the installed capacity of Otluca-1) and then 9 months of year 2011 are included. Electricity production in year 2011 is found from by multiplying the ratio of the 37.54 MW to 46 MW by 224,000 MWh/year which is 182,803 MWh/year. Also electricity production is in ¾ of the year so generation will be 137,102 MWh/year. Emission reductions for 2011 are then found by multiplying 137,102 MWh/year by emission factor.

The project started with the initial commercial operation of the turbines after testing phase on 07/04/2011. The carbon crediting period and therefore the monitoring starts when the plant commences electricity generation.

Year	Electricity Output MWh	Baseline emission reductions in tones of CO_2e	Project emissions in tones of CO_2e	Annual estimation of emissions reductions in tones of CO_2e
2011	137,102	75,286	0	75,286
2012	224,000	123,003	0	123,003
2013	224,000	123,003	0	123,003
2014	224,000	123,003	0	123,003
2015	224,000	123,003	0	123,003
2016	224,000	123,003	0	123,003
2017	224,000	123,003	0	123,003
2018	224,000	123,003	0	123,003
2019	224,000	123,003	0	123,003
2020	224,000	123,003	0	123,003
2021	86,898	30,751	0	30,751
TOTAL				**1,213,064**

- *The appropriateness of the source, sink and reservoir:*
  The project is a new run-of-river project that results in a new reservoir (validated with site visit) but as power density is more than 10 W/m2 project emission (PE_y) is zero. Power density is calculated as 930 W/m^2 (reservoir size: 49,463 m^2, installed capacity: 46 MW).
  Leakage emissions are considered as zero according to the ACM0002/Version 12.

  CO2 emissions are considered in the baseline scenario.

  The assumptions for the Project Emissions and Leakage made afterwards is found acceptable and suitable for the project activity by the validation team.
- *The correctness and transparency of formulas and factors used,*
  Baseline emissions include only CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity:

$$BE_y = (EG_y - EG_{baseline}) \times EF_{grid,CM,y} \quad \textbf{(6)}$$

Where:

BE_y	= Baseline emissions in year *y* (tCO2/yr).
EG_y	= Electricity supplied by the project activity 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.
$EF_{grid,CM,y}$	= Combined margin CO2 emission factor for grid connected power generation in year *y* calculated using the latest version of the "Tool to calculate the emission factor for an electricity system".

The project activity is the installation of a new grid-connected renewable power plant, thus $EG_{baseline} = 0$ (ACM0002 page 9, equation 8).
It follows that:

$BE_y = EG_y * EF_{grid,CM,}$ = 224,000 MWh/year * 0.5491 tCO2/MWh = 123,003 tCO_2/year

In Step 1: Only the national transmission system is defined in Turkey and only TEİAŞ is in the charge of all transmission system related activities. The emission factor for

imports from neighboring countries is considered 0 (zero) tCO_2/MWh for determining the OM.

In Step 2 “Option I: Only grid power plants are included in the calculation” is chosen. There are no off-grid plants in Turkey.

Step 3: As approved by experts, the only low cost resources in Turkey, which are considered as must-run, are Hydro, Renewables and Waste, Geothermal and Wind. As average share of low cost resources for the last five years is far below 50% (23.43%), the Simple OM method is applicable to calculate the operating margin emission factor ($EF_{grid,OM,y}$)and ex ante option is selected, with the most recent data for the baseline calculation stemming from the years 2006 to 2008.

For Step 4: “data on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system” (option B)is chosen, as there is no power plant specific data available, renewable power generation are considered as low-cost power sources and amount of electricity supplied to the grid by these sources is known.

For the calculation of the OM the consumption amount and heating values of the fuels for each sources used for the years 2006, 2007 and 2008, is taken from the TEİAŞ annual statistics(latest available data on date of PD submission to DOE).

3-year Generation Weighted Average $EF_{grid,OMsimple,y}$ ($ktCO_2$/GWh): 0.6534

For Step 5 and 6: The set of power capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently (Option b) is used to identify the sample group, as this option comprises the larger annual generation in Turkey.

$EF_{grid,BM,y}$ (tCO_2/MWh: 0.4448

For Step 7: The combined margin emission factor is calculated as per tool:
$EF_{grid,CM,y}$ = 0.6534 tCO_2/MWh * 0.5 + 0.4448 tCO_2/MWh * 0.5 = 0.5491 tCO_2/MWh

The efficiency factors of power plants are taken from Annex 1 of the “Tool to calculate the emission factor for an electricity system”. Efficiency of coal is taken as 41.5% under the assumption that the plants use “fluidized technology”. The efficiency for lignite is taken as 39% for subcritical coal. The efficiency factors used are on the conservative side.

- *The assumptions made for estimating GHG emission reductions*

The only assumption is the one about leakage emissions that is assumed to be zero as per the methodology. Other unknown parameters like the emission factors of fuels are taken from the IPCC values as mentioned above.

- *Uncertainties*

All data presented in the baseline calculations are provided from official sources. Therefore, uncertainties of data sets were not estimated. There are no uncertainties in the calculations

3.5 Environmental Impact

The domestic laws and regulations in Turkey do not require an Environmental Impact Analysis for the project activity. The project has "EIA not required certificate" dated 26/12/2006 that was given by the Ministry of Environment and Forestry. The "EIA not required certificate" was submitted to the validation team.
It has been verified depending on the processes that the project complies with the legal requirements.

3.6 Comments by stakeholders

During the site visit, the head of the village and some villagers were interviewed and no complaints were received. There is ongoing communication between the local community and of Çaltıbükü village and the plant management.

It was validated via interviews during the site visit that the project activity supports the sustainable development. At the construction and at the operation stage local people are employed. It was verified during the site visit through the interviews with local people and village head that the project has a positive impact to the region's sustainable development.

4 Validation Conclusion

Bureau Veritas Certification has made the validation of "Otluca HPPs Run-of-River Hydro Project, in Mersin, Turkey".

The validation was performed on the basis of VCS criteria and host country 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) Desk review of the project design and the baseline and monitoring plan; (August 2010)
ii) Review of the baseline methodology by the specialist and the validator (August 2010-July 2011)
iii) Review of the investment analysis by the specialist and the validator (August 2010-July 2011)
iv) Follow-up interviews and on site visit; (September 2010)
v) Resolution of outstanding issues and the issuance of the final validation report and opinion (July 2011)

Project participant/s used the latest tool for demonstration of the additionality. In line with this tool, the PD provides analysis of prevailing barriers to determine that the project activity itself is not the baseline scenario.

By generating electricity using renewable energy, the project is likely to result in reductions of GHG emissions partially displacing the electricity that would have been generated using fossil fuels. An analysis of the investment 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. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions. The review of the Project Description, the site visit and the subsequent follow-up interviews (please see the list of the persons interviewed under section 5.2 of this report) have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. The Project Description was subsequently

revised as Version 06 dated 27 July 2011 to resolve the issues that have risen during the interviews and subsequent interactions.

In our opinion, the project correctly applies and meets the relevant VCS requirements and the relevant host country criteria. The validation is based on the information made available to us and the engagement conditions detailed in this report.

5 References

5.1. Documents

Documents provided by Beyobası Enerji that relates directly to the GHG components of the project and other reference documents are given below:

1. PD for "Otluca HPPs Run-of-River Hydro Project"
   Version 01 dated 14 July 2010
   Version 02 dated 06 December 2010
   Version 03 dated 07 February 2011
   Version 04 dated 30 March 2011
   Version 05 dated 31 May 2011
   Version 06 dated 27 July 2011
   Version 07 dated 28 July 2011
   Version 08 dated 22 August 2011

2. Baseline Calculation Excel Sheet
   Version 01 dated 14 July 2010
   CM-Calculation_AKFEN_2010-07-09)

3. Investment Analysis Excel Sheet
   Version 01 dated 14 July 2010
   Version 02 dated 06 December 2010
   Version 03 dated 07 February 2011
   Version 04 dated 30 March 2011
   Version 05 dated 31 May 2011
   Version 06 dated 27 July 2011

4. Otluca Project Report dated May 2007
5. Loan Proposal from bank dated 24/12/2007
6. E-mail for early VER consideration dated 25/08/2007
7. Contract with Hangzhou Yatai dated 28/05/2008
8. Agreement with Taşeli Insaat for construction dated 04/01/2008
9. Provisional Acceptance Protocol dated 07/04/2011
10. "EIA not required" 26/12/2006
11. Grid connection agreement with TEIAS dated 09/04/2009
12. License is dated 05/07/2007
13. Approved consolidated baseline and monitoring methodology ACM0002, version 12
14. UNFCCC's Methodological Tool: "Tool for the demonstration and assessment of additionality", version 05.2
15. UNFCCC's Methodological Tool: "Tool to calculate the emission factor for an electricity system", version 02
16. VCS PD Template – 19 November 2007
17. VCS Validation Report Template – 19 November 2007
18. Voluntary Carbon Standard 2007.1

5.2. Persons Interviewed

List persons interviewed during the validation and site visit, or persons that contributed with other information that are not included in the documents listed above.

1. Mr. Ramazan Aslan, Carbon Consultant, FutureCamp Turkiye
2. Mr. Alparslan Astepe, Electrical Engineer
3. Mr. Murat Günaydın, Project Manager
4. Mr. Serkan Özüdoğru, Electrical Technician
5. Mr. Adem Karagöl, Local Employee
6. Mr. Yusuf Çınar, Local Employee
7. Mr. Durmuş Ali Şahin, Head of Çaltıbükü Village

ANNEX I – Validators' Competence

Internal Technical Reviewer: Ms. Bade Cebeci - Environmental Engineer
Bureau Veritas Certification - Internal Technical Reviewer

Bade Cebeci has over 10 years experience in environmental sciences and auditing. She is a lead auditor for environment, safety and quality management systems. She is also lead verifier for GHG Emission Reduction Projects.

Lead Verifier: Ms. Seda Yücel – M.Sc.Energy Science and Technology, Chemical Engineer
Bureau Veritas Certification – Climate Change Lead Verifier

Seda Yucel has over 2 years of experience in management systems and 4 years of experience in energy management in industry. She is a verifier for GHG Emission Reduction Projects. Has participated various trainings on Gold Standard.

Baseline Specialist: Mrs. Yildiz Arikan - Assoc. Professor Dr
Sabancı University, Faculty of Management, Orhanlı, Tuzla, 34956, Istanbul, Turkey

Yıldız Arıkan 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 ''CO_2 Emission Research'' Studies. Academically, Yıldiz Arıkan 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.

ANNEX II - Validation Protocol

Table 1 Validation requirements based on the Voluntary Carbon Standard 2007.1

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
1. VCS Program specific issues					
a. Have the project(s) created another form of environmental credit (for example renewable energy certificates)?	VCS	3.1	It is stated in Section 1.13 of the VCS PD v1 that there is no other form of environmental credit generated by the Otluca Project.	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 programt?	VCS	3.1	As it is stated in Section 1.13 of the VCS PD v1 that there is no other form of environmental credit, question is N/A.	OK	OK
c. Are the VCS PD, monitoring reports, and other documents required under the VCS Program in English?	VCS	3.2	The VCS PD, IRR calculation sheet, CM calculation sheet and project report are in English. "EIA Exemption Document" and "Production Licence" are in Turkish. Please provide English versions of these documents.	CL-1	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	ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources", Version 12 is applicable and used for this project. CDM methodology elements are approved under the VCS Program.	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	Starting date of construction activities is set to be project starting date which is expressed in the VCS PD as 1/9/2009 but during the site visit it is told to the validation team that construction avtivities started in February 2008. Please clarify. Please discuss why the project start date is not the	CAR-1	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			electromechanical contract date.		
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	The Project Start Date is the date on which the project began reducing or removing GHG emissions. In section 1.6 this date is stated as January 2011 and in section 7 July 2012 is stated. Please clarify. Please provide updated information about the start of commercial operation and provide objective evidence if operation started. The validation was contracted on 16/07/2010.	CAR-19	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	Project Crediting Period Start Date is given as 01/01/2011, the start date of the commercial operation of the plant and last until 31/12/2021. This is a non-AFOLU project and Crediting Period Start Date is not earlier than 28/03/2006.	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	5.2.2	No, in section 8.2 of VCS PD v1, it is stated that "The project activity is neither included in an emissions trading program nor does it take place in a jurisdiction or sector in which binding limits are established 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	VCS	5.2.2	As the answer to the above question is NO, this question is N/A.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
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]					
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	5.2.2	It is stated in Section 1.14 of the VCS PD v1 that "Otluca HPPs have not applied for crediting of any other GHG program nor has it been rejected from any other GHG program".	OK	OK
h. Was this project rejected by other GHG Programs?	VCS	5.2.2	It is stated in Section 1.14 of the VCS PD v1 that "Otluca HPPs have not applied for crediting of any other GHG program nor has it been rejected from any other GHG program".	OK	OK
i. If yes, have project proponents:	VCS	5.2.2	As the answer to the above question is NO, this question is N/A.	OK	OK
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	As the answer to the above question is NO, this question is N/A.	OK	OK
ii. provided the VCS Program validator and	VCS	5.2.2	As the answer to the above question is NO, this	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
verifier, VCS Program project database and VCS Program Registry with the actual rejection document(s) including any additional explanations?			question is N/A.		
j. Is this a renewal of the Project Crediting Period?	VCS	5.2.3	No, this is not renewal but first validation of the project.	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	As this is not renewal but first validation of the project, this question is N/A.	OK	OK
b. Standards and factors					
d. 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		OK	OK
i. be publicly available from a reputable and recognised source (e.g. IPCC, publishedGovernment data etc)?	VCS	5.5	All data are publicly available and are from trustworthy sources (governmental).	OK	OK
ii. be reviewed as part of its publication by a recognised competent organization?			All data are publicly available and are from trustworthy sources (governmental).	OK	OK
c. Project grouping					
a. Is this a grouped project?	VCS	5.6	No, this is not a grouped project (as indicated in Section 1.2 of the VCS PD v1).	OK	OK
b. If yes , was this grouped project described in one VCS PD?	VCS	5.6	As this is not a grouped project, this question is 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	As this is not a grouped project, this question is N/A.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
d. What is the sampling carried out by the VCS verifier?	VCS	5.6	As this is not a grouped project, this question is 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	As this is not a grouped project, this question is 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	As this is not a grouped project, this question is 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	Yes, the PDD is in accordance with the latest template and guidance from the VCS.	OK	OK
b. Is there a project title?	PD temp	1.1.	Title of the project is "Otluca HPPs run-of-river hydro project".	OK	OK
c. Type/Category of the project	PD temp	1.2		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	It is stated in Section 1.2 that project category is "Scope 1: "Energy Industry-Renewable/Non-renewable Sources". Also in Section 1.16 is is explained that a CDM methodology is used and as CDM is a VCS approved GHG program, the project is also eligible under the VCS.	OK	OK
ii. Is it specified if the project is a Grouped project?	PD temp	1.2	It is specified that the project is not a grouped project.	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	PD temp	1.3	-In the VCS PD v1 Section 1.4., it is indicated that "with an installed capacity of 46 MW, annual electricity production of up to 207,640 MWh/year	CAR-2	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
equivalent emissions reductions per year; Mega Project: More than 1,000,000 tonnes CO2 equivalent emissions reductions per year)			and baseline grid emission factor of 0.5502 tCO2/MWh is expected". Estimate of annual emission reductions are 114,243 tonCO2e. Total estimated reductions are 1,142,435 ton CO2e. Annual average of estimated emission reductions are 114,243 ton CO2e. -In the generation license figures for installed capacity is 47,7 MW, annual production is 224,000,000 kWh -In the VCS PD v1 Section 1.9, capacity is 46 MW, annual production is 202,449 GWh, which are different from the above figures. Please clarify.		
e. Is a brief description of the project provided?	PD temp	1.4	The brief description of the project is given as "Otluca HPPs is a 46 MW run-of-river hydro power plant project. It consists of three sub-projects (Otluca-1, Boğuntu, Otluca-2) which are located at the upstream part of the Anamur River in Anamur district. The sub-projects are described as follows: **Otluca-1** is a medium head plant using a weir structure to divert Anamur river water into an intake structure with three de-sanding basins. From there it enters a tunnel of about 3.8 km length followed by an open canal of about 500 m length and followed again by a tunnel of about 2.2 km length until the water reaches a headpond. An intake from this pond takes it through a 507 m	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			long penstock to the powerhouse. The combined capacity of the 3 turbines is 36.9 MW. **Boğuntu** uses the water of the Boğuntu River (tributary of the Anamur River) and is a medium head structure with the same system as Otluca 1. It has one de-sanding basin, starts with 162 m long open canal and continues with a 1.5 km long headrace tunnel to a headpond. The penstock is about 94 m long and leads with a head of 67.6 m to a power plant with 3 turbines. The installed capacity is 3.3 MW. The weir of **Otluca-2** is located only some 500 m downstream from where Otluca 1 and Boğuntu Projects feed the water back into the Anamur River. Otluca-2 diverts the water again to an intake structure and into three settlement ponds before it enters the conveyance system consisting out of 2 tunnels and 2 canals of an overall length of 1,547 m, out of which 1,137 m are tunnel. The water arrives at a headpond and feeds through a 57 m long penstock the powerhouse with 29.4 m head and 3 turbines. The combined installed capacity of 5.8 MW. Otluca HPP is expected to start electricity production on 1st January 2011. Produced electricity is being fed into the national grid. The project generates a substantial emission reduction by bringing carbon neutral electricity production to the Turkish grid. Overall		

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			emission reductions shall amount to **114,243 tCO2e per year** on average. The hydro project shall be registered as a voluntary emission reduction project under the Voluntary Carbon Standard, thus enabling its implementation by obtaining co-financing from carbon market proceeds.".		
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	The project is located on the upstream part of Anamur River in Taseli Plateau in southern Turkey, Anamur district, Mersin province. The geographical coordinates of the weirs and the power plants are given in section 1.15 of the VCS PD.	OK	OK
g. Duration of the project activity/crediting period	PD temp	1.6		OK	OK
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	In the VCS PD v1, start date is indicated as "the initial commercial operation of the turbines: 1 January 2011".	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	According to PD template, crediting period start date is the date the first monitoring period is commenced. In the VCS PD v1, it is stated that a renewable crediting period over 10 years shall apply and the first crediting period shall begin on start date of the commercial operation of the plant and last until 31 December 2021.	CL-2	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			Please indicate if the crediting period is to be renewed and how many times (mostly two times).		
h. Are the conditions prior to project initiation provided?	PD temp	1.7	In section 1.7. of the VCS PD v1, it is indicated that this is a Greenfield project. Please give more details regarding the conditions prior to project initiation.	CL-3	OK
i. Is a description of how the project will achieve GHG emission reductions and/or removal enhancements provided?	PD temp	1.8	In section 1.8 of the VCS PD v1, it is mentioned that "The emission reductions will be achieved by substituting electricity produced from the conventional electricity mix of the Turkish grid which depends to a large degree on fossil fuels."	OK	OK
j. Are project technologies, products, services and the expected level of activity described?	PD temp	1.9	In section 1.9. of the VCS PD v1, it is indicated that "The 46 MW OTLUCA run-of-river HPP produces electricity for transmission into the national grid. The project is developed to generate electricity from the kinetic energy in the water of Anamur River. The Turbine type will be Francis vertical axis for Otluca 1 and Otluca 2 and Francis horizontal axis for Boğuntu. The generated energy of Otluca HPPs will be transmitted to Anamur switchyard which is 20 km from Otluca-1 HEPP, where energy from all three plants is connected to the transmission line. The total annual electricity production of the project activity is expected to be 202.449 GW/year. Figures and information in Table 1-3 are different in the VCS PD than the licence. Please refer to Table 1 D.d. and clarify.	CAR-3	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
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	The PD Template indicates that "the VCS PD shall include identification of relevant local laws and regulations related to the project and demonstration of compliance with them". In VCS PD v1, relevant laws and regulations have been identified (Electricity Market Law, Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy, Environment Law) and it is stated that "compliance is demonstrated by the authorizations and operation permits obtained." Production license and EIA exemption are provided to DOE. Please provide water usage agreement and any other documents showing compliance with regulations (i.e. regarding waste management) Energy efficiency law is not included. Please clarify. Please provide objective evidences for: -land use agreement -any regulatory documents related to waste management (national waste transportation forms etc) -water usage agreement -construction permit -legal documents related to tree cut permissions and expropriations	CAR-4	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
l. Are risks that may substantially affect the project's GHG emission reductions or removal enhancements identified?	PD temp	1.11	The only risks that may substantially affect the project's GHG emission reductions or removal enhancements are identified as "Precipitation related low-water levels might lead to diminished electricity production and thus lower emission reductions" and "any possible damage in irrigation channel due to flood".	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 demonstred?	PD temp	1.12	It is mentioned in Section 1.12 of the VCS PD v1 that the objective of Otluca HPPs is the creation of carbon friendly energy generation capacity via realization of a hydro-project, the main purpose is not to create GHG emissions primarily for the purpose of its subsequent removal or destruction demonstrated.	OK	OK
n. Has the project created another form of environmental credit (for example renewable energy certificates)?	PD temp	1.13	No, the project has not created another form of environmental credit. The only other possibility that the project gets environmental credits is Gold Standard (host country is not eligible for JI/CDM projects and there is no local environmental crediting system within the country). A search through the GS project registry website retrieved no results.	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	As the answer to the above question is NO, this question is N/A.	OK	OK
p. Was the project rejected under other GHG programs (if applicable)	PD temp	1.14	No, it is stated in Section 1.14 of the VCS PD v1 that "Otluca HPPs have not applied for crediting of any other GHG program nor has it been rejected from any other GHG program".	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
q. If yes, does the project:	PD temp	1.14	As the answer to the above question is NO, this question is N/A.	OK	OK
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	As the answer to the above question is NO, this question is N/A.	OK	OK
ii. provide the VCS verifier and Registry with the actual rejection document(s) including explanation?	PD temp	1.14	As the answer to the above question is NO, this question is 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	The HPP is operated and owned by **Beyobası Enerji Üretimi A.**S**.** The VCS project proponent is Akfenhes Yatırımları ve Enerji Üretim A.S. Akfen is involved in the engineering tasks of the project and also responsible party for the management of the VER project. Contact details of the responsible and company are provided. FutureCamp Türkiye is the other party involved as PD consultant.	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	Information provided in this section is related to the project eligibility. It is stated that although the project cannot be staged under the JI/CDM – as Turkey is not eligible for staging such projects –, still an approved CDM methodology shall be applied. Pertaining thus to a VCS approved GHG	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			program, the project at hand shall be eligible also under the VCS.		
t. Is there any commercially sensitive infromation 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	Documentary proof for Financial Analysis is commercially sensitive information and has been excluded from the public version of the VCS PD	OK	OK
u. If yes, was it listed?	PD temp	1.17	Please indicate if the document will be displayed on the VCS Project Database.	CL-4	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	The UN approved consolidated baseline methodology ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources", Version 12 is applicable to this project. ACM0002 refers to the following tools: "Tool for the demonstration and assessment of additionality", V 05.2 "Tool to calculate the emission factor for an electricity system,V 02".	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	Yes, CDM is a VCS approved methodology as indicated in Section 1.16 of the VCS PD v1 as: "although the project cannot be staged under the JI/CDM – as Turkey is not eligible for staging such projects –, still an approved CDM methodology shall be applied. Pertaining thus to a VCS approved GHG program, the project at hand shall be eligible also under the VCS."	OK	OK
x. Are the choice of the methodology and its applicability to the project activity justified?	PD temp	2.2	1) This methodology is applicable to grid-connected renewable power generation project activities that	CAR-5	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			(a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plants); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s): Project is a Greenfield project. 2) The methodology is applicable under the following conditions: a) The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit This is a hydropower project. b) In case of hydro power plants, one of the following conditions must apply: -The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or -The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project		

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			activity, as per definitions given in the Project Emissions section, is greater than 4 W/m2; or -The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m2. It is indicated in the VCS PD v1 that the project results in construction of a new reservoir with a power density greater than 4 W/m2. Please justify. 3) The methodology is not applicable to the following conditions. a) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity The project does not involve switching from fossil fuels to renewable energy at the site of the project activity. b) Biomass fired power plants; Project is not a biomass fired power plant. c) Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the		

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			power plant is less than 4 W/m2. It is indicated in the VCS PD v1 that the project results in construction of a new reservoir with a power density greater than 4 W/m2. Please justify. Applicability of the methodology will be decided after the CAR in this question is clarified.		
y. Are GHG sources, sinks and reservoirs identified for the baseline scenario and for the project?	PD temp	2.3	According to ACM0002, CO2 emissions for the baseline and CH4 emissions from the reservoir of the project activity are the emissions to be included. Also, if the power density is greater than 4 W/m2, project emissions are zero. In the VCS PD v1, only CO2 emissions for the baseline are included. Please refer to Table 1 D.x. and provide calculations regarding power density.	CAR-6	OK
z. Is it described how the baseline scenario is identified and the desciption of the identified baseline scenario?	PD temp	2.4	According to ACM0002, baseline for "project activities that are installations of new grid connected renewable power plants" is "electricity delivered to the grid by the project activity which would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources". Please revise the baseline statement in accordance with the methodology.	CAR-7	OK
aa. Has the project proponent selected the most reasonable baseline scenario for the project?	PD temp	2.4	The baseline scenario is that, 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	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			generation sources, as reflected in the combined margin (CM) calculations described in the .Tool to calculate the emission factor for an electricity system.		
bb. Does it reflect what most likely would have occurred in the absence of the project?	PD temp	2.4	It is indicated after the baseline justification explanations that "if Otluca HPPs would not have been built, power from a new grid-connected thermal plant would have been the most likely scenario".	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	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 (additionality) is explained in accordance with the "Tool for the demonstration and assessment of additionality v:5.2". This is in line with the methodology.	OK	OK
dd. Has the project proponent demonstated, 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	Additionality is only proven by the "Tool for the demonstration and assessment of additionality v:5.2". which is in line with the methodology. No other tests like the project test, the performance test, and technology test have been done.	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	Yes, title and reference of the VCS methodology is provided. The latest version of CDM EB approved large scale "Consolidated methodology for grid-connected electricity generation from renewable sources, ACM0002, Version 12" is applied.	OK	OK
ff. Is monitoring, including estimation, modelling, measurement or calculation approaches desbride including:	PD temp	3.2		OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
i. Purpose of monitoring?	PD temp	3.2	Please include a statement regarding the purpose of monitoring.	CL-5	OK
ii. Types of data and information to be reported, including units of measurement?	PD temp	3.2	According to the methodology: EG facility,y Cap pj Apj are the parameters to be monitored. The units, sources, measurement methods, QA/QC procedures are included in tabular format for all parameters but: -Please include monitoring methods and qa/qc procedures to be applied for parameter Cappj. - Please include source of data and qa/qc procedures to be applied for parameter Apj.	CL-6	OK
iii. Origin of the data?	PD temp	3.2	Source of data is described as project site for each parameter but Apj. Please describe source of data for Apj.	CL-7	OK
iv. Monitoring, including estimation, modelling, measurement or calculation approaches?	PD temp	3.2	EGfacility,y is monitored with electricity meters (Continuous measurement and at least monthly recording) APJ is monitored from topographical surveys / maps Please indicate how CapPJ paramater will be	CL-8	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			monitored.		
v. Monitoring times and periods, considering the needs of intended users?	PD temp	3.2	EGfacility,y is monitored continuously. APJ and CapPJ are monitored annually.	OK	OK
vi. Monitoring roles and responsibilities ?	PD temp	3.2	Please clearly describe monitoring roles and responsibilities.	CL-9	OK
vii. Managing data quality?	PD temp	3.2	Please describe how data quality will be managed for parameters to be monitored.	CL-10	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		OK	OK
i. Data unit?	PD temp	3.3	Tabular format for parameters to be monitored includes “data unit” information.	OK	OK
ii. Description?	PD temp	3.3	Tabular format for parameters to be monitored includes “description” information.	OK	OK
iii. Source of data to be used?	PD temp	3.3	Tabular format for parameters to be monitored includes “Source of data to be used” information.	OK	OK
iv. Value of data applied for the purpose of calculating expected emissions reductions?	PD temp	3.3	Tabular format for parameters to be monitored includes “Value of data applied for the purpose of calculating expected emissions reductions” information.	OK	OK
v. Description of measurement methods and procedures to be applied?	PD temp	3.3	Tabular format for parameters to be monitored includes “Description of measurement methods and procedures to be applied” information. Please fill in relevant information for Cappj parameter.	CL-11	OK
vi. QA/QC procedures to be applied?	PD temp	3.3	Tabular format for parameters to be monitored includes “QA/QC procedures to be applied” information.	CL-12	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			Please fill in relevant information for Cappj and Apj parameters.		
vii. Any comment?	PD temp	3.3	Tabular format for parameters to be monitored includes "Any comment" information for some parameters.	OK	OK
hh. Is the monitoring plan described?	PD temp	3.4	Yes, the monitoring plan is described in Section 3.4 of the VCS PD.	OK	OK
ii. Are methodological choices explained?	PD temp	4.1	Expalantion is given as "CDM approved methodology ACM0002 was chosen as methodological basis as this methodology defines well-established procedures and has already been successfully applied to many CDM and JI projects".	OK	OK
jj. Are GHG emissions and/or removals for the baseline scenario quantified?	PD temp	4.2	Yes, baseline emissions and reductions have been quantified.	OK	OK
kk. Are GHG emissions and/or removals for the project quantified?	PD temp	4.3	Yes, project emissions have been quantified.	OK	OK
ll. Are GHG emission reductions and removal enhancements for the GHG project quantified?	PD temp	4.4	Yes, GHG project emissions have been 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	EIA not required document is provided to DOE.	OK	OK
nn. Were relevant outcomes from stakeholder consultations and mechanisms for on-going communication provided?	PD temp	6	<u>Site visit notes:</u> Alparslan Astepe (electrical engineer), Serkan Ozudogru (electrical technician) have been interviewed. Regulator 1 was about to be finished when the site	CL-13	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			visit has been conducted. Min 550 employees work in the site. Adem Karagöl, Yusuf Çınar (from Çaltıbükü village) and Yaşar Deniz (from Boğuntu village) have been interviewed. they say that: -dusting is a problem for fruit trees, company does not do enough water spraying. Please clarify how the damage to fruit trees will be compensated. -construction started in February 2008. -20 people work from Çaltıbükü village -Yaşar Deniz was unemployed before, not he work for the project -Durmuş Ali Şahin (village head of Çaltıbükü) says that: -Road to the village is very much damaged and villagers have been promised that road will be repaired when the construction is over. Also, a grant provided to the government includes only 5 km of the damaged road. The remaining 17 km are out of scope. Please clarify and provide grant that roads will be repaired to DOE. -Underground drinking water pipes have been damaged due to explosions and they have been reconstructed above ground and they may be subject to further damage. Please clarify if this piping will be transferred underground.		

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			-A bridge used by Sarıağaç, Ormancık, Çaltıbükü villages to transfer cattle to grazng land ia damaged. The road is extended by 20 km by this. Please provide a plan about repairing the bridge. -Çaltıbükü and Sarıağaç villages have a shared canal for watering the fields. About 1 km of the canal is now damaged. PP offered to provide 20 lt/sn but governmental references adviced the villagers to agree for no less than 40 lt/sn. Please clarify. -villagers have a registered 80 lt/sn water from Dragon river but they don't have financial means for the construction of the canal. Please clarify if the PP will support the village for this construction.		
oo. Were chronological plan for the date of initiating project activities, date of terminating the project, frequency of monitoring and reporting and the project period, including relevant project activities in each step of the GHG project cycle provided?	PD temp	7	Issuance of the License, Requests for Proposals from Consultants for VER Development, mechanical contract, Initial Agreement with a VER Consultant, Financial Closure with Bank, Start of First Construction Activities, Signature with FutureCamp Türkiye for VER Development and Start of operation dates are provided. Please discuss why the start date is not the mechanical contract date. Please clarify why the start date in the PD is different than the date in site visit. Please provide objective evidences for all the	CAR-8	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			dates.		
pp. Was evidence of proof of title provided through one of the following:	PD temp	8.1		OK	OK
i. a right of use arising or granted under statute, regulation or decree by a competent authority?	PD temp	8.1	Production licence is provided as a proof of title.	OK	OK
ii. a right of use arising under law?	PD temp	8.1	Production licence is provided as a proof of title.	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 rightincludes the right of use of such reductions or removals and the project proponent hasnot been divested of such right of use)?	PD temp	8.1	Production licence is provided as a proof of title.	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	Production licence is provided as a proof of title.	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?			Production licence is provided as a proof of title.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
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?			Production licence is provided as a proof of title.	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 emissions?	PD temp	8.2	No, project is not involved in activities that participate in an emissions trading program, or take place in a jurisdiction or sector in which binding limits are established on GHG emissions.	OK	OK
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					

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
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	No, additionality is only demonstrated by the methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" Version 12 and the additionality tool referred in this methodology.	OK	OK
b. If the project proponent used Test 1:	VCS	5.8	As the referred tests have not been used question is N/A.	OK	OK
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 lessemissions-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	As the referred tests have not been used question is N/A.	OK	OK
ii. Step 2 – Implementation Barriers – Does the project face one (or more) distinct barrier(s) compared with barriers faced by	VCS	5.8	As the referred tests have not been used question is N/A.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
alternative projects?					
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	As the referred tests have not been used question is N/A.	OK	OK
ii. Technological Barriers – Does the project face technology-related barriers to its implementation?	VCS	5.8	As the referred tests have not been used question is 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	As the referred tests have not been used question is N/A.	OK	OK
iii. Step 3 – Common Practice	VCS	5.8	As the referred tests have not been used question is N/A.	OK	OK
i. Is project type common practice in sector/region, compared with projects that have received no carbon finance?	VCS	5.8	As the referred tests have not been used question is N/A.	OK	OK
ii. if it is common practice, have the project proponents identified barriers faced compared with existing projects?	VCS	5.8	As the referred tests have not been used question is N/A.	OK	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	As the referred tests have not been used question is N/A.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
1. Was data on all baseline candidates within the geographic area collected?	GHG PROTOCOL	7.4.2 AND 7.6	As the referred tests have not been used question is 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 technologies or practices have penetrated the market (defined by a specified geographic area). This percentage could be based on the number of plantsor 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.)	GHG PROTOCOL	7.4.2 AND 7.6	As the referred tests have not been used question is N/A.	OK	OK
c. If the project proponent used Test 2:	VCS	5.8	As the referred tests have not been used question is N/A.	OK	OK
i. Step 1 – Regulatory Surplus - Is the project	VCS	5.8	As the referred tests have not been used question	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
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 lessemissions-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).			is N/A.		
ii. Step 2: Performance Standard	VCS	5.8	As the referred tests have not been used question is N/A.	OK	OK
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	As the referred tests have not been used question is N/A.	OK	OK
ii. Are performance standard based additionality tests approved	VCS	5.8	As the referred tests have not been used question is N/A.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
through the double approval process and by the 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	As the referred tests have not been used question is N/A.	OK	OK
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 lessemissions-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	As the referred tests have not been used question is 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	VCS	5.8	As the referred tests have not been used question is N/A.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
Program? (The approved list is available on www.v-c-s.org)					
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 methodology directly states the baseline scenario as "If the project activity is the installation of a new grid-connected renewable power plant/unit, 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". The PP has no selection to make.	OK	OK
b. Does the baseline scenario set out the geographic scope as applicable to the project?	VCS	5.10	Please clearly indicate the project boundary.	CL-14	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	As baseline is clearly identified in the selected methodology, ACM0002, this question is N/A.	OK	OK
i. The project description, including identified GHG sources, sinks and reservoirs;	ISO 14064.2	5.4	As baseline is clearly identified in the selected methodology, ACM0002, this question is N/A.	OK	OK
ii. Existing and alternative project types, activities and technologies providing equivalent type and level ofactivity of products or services to the project;	ISO 14064-2	5.4	As baseline is clearly identified in the selected methodology, ACM0002, this question is N/A.	OK	OK
iii. Data availability, reliability and limitations;	ISO 1406	5.4	As baseline is clearly identified in the selected methodology, ACM0002, this question is N/A.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
	4-2				
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 1406 4-2	5.4	As baseline is clearly identified in the selected methodology, ACM0002, this question is N/A.	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 1406 4.2	5.4	Significant differences between the project and the baseline scenario have been explained in Section 2.4. of the VCS-PD.	OK	OK
e. Has the project proponent selected or established, explained and applied criteria and procedures for identifying and justifying the baseline scenario?	ISO 1406 4.2	5.4	For identification of the baseline scenario please refer to Table 1-2.g.a. Justification of the baseline scenario is carried out in Section 2.4 of the VCS PD v1.	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 1406 4.2	5.4	As baseline is clearly identified in the selected methodology, ACM0002, this question is N/A.	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 1406 4.2	5.4	Additionality calculations are given in section 2.5. Project results in GHG emissions reductions that are additional.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
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	Related laws have been stated in Section 1.10 of the VCS PD v1. Please refer to Table 1-2.d.k. Please provide water usage agreement and any other documents showing compliance with regulations (i.e. regarding waste management) Energy efficiency law is not included. Please clarify.	CL-15	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	Yes, 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 have been identified in the monitoring plan.	OK	OK
b. Do the monitoring procedures include?	VCS	5.11	Please refer to Table 1-2.d.ff	OK	OK
i. purpose of monitoring?	VCS	5.11	Please refer to Table 1-2.d.ff	OK	OK
ii. types of data and information to be reported, including units of measurement?	VCS	5.11	Please refer to Table 1-2.d.ff	OK	OK
iii. origin of the data?	VCS	5.11	Please refer to Table 1-2.d.ff	OK	OK
iv. monitoring methodologies, including estimation, modelling, measurement or calculation approaches?	VCS	5.11	Please refer to Table 1-2.d.ff	OK	OK
v. monitoring times and periods, considering the needs of intended users?	VCS	5.11	Please refer to Table 1-2.d.ff	OK	OK
vi. monitoring roles and responsibilities?	VCS	5.11	Please refer to Table 1-2.d.ff	OK	OK
vii. GHG information management systems,	VCS	5.11	It is indicated in Section 3.4 of the VCS PD v1 that	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
including the location and retention of stored data?			"All data monitored under the monitoring plan will be kept in electronic form and hard copy for 2 years after the end of the crediting period".		
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	Please provide information regarding calibration of electricity meters.	CL-16	OK
d. Does the project proponent apply GHG monitoring criteria and procedures on a regular basis during project implementation?	VCS	5.11	This question will be answered during verification.	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	As the validation process is not completed yet, there is no monitoring report prepared. Question is 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	As the validation process is not completed yet, the crediting period has not started. Question is N/A.	OK	OK
k. Information to validator and verifier					
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	License is provided as proof of title but other documents like mechanical contract and bank loan are requested for proof of dates.	OK	OK

CHECKLIST QUESTION	Ref.	item	COMMENTS	Draft Concl	Final Concl
			License and EIA not required documents are in Turkish. All required documents has been presented to DOE.		
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	This question is N/A as the project is at validation stage yet.	OK	OK

* Definition of Project Start Date differ between VCS PD template and VCS 2007.1. This protocol applies the VCS 2007.1 definition.

Table 2 Methodology

CHECKLIST QUESTION	Ref.	§	comments		Draft Concl	Final Concl
1. Approval			COUNTRY A (Country A)	COUNTRY B (Country B)		
1.1. 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? State the country.	VVM	45	N/A		OK	OK
1.2. Does the letter of approval from DNA of each Party confirm that : - The Party is a Party of the Kyoto Protocol - The participation is voluntary - In the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country - Refers to the precise proposed CDM project activity title in the PDD being submitted for registration	VVM	45	N/A		OK	OK
1.3. Is(are) the letter(s) of approval unconditional with respect to (1.2) above?	VVM	46	N/A		OK	OK
1.4. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA)? If there is doubt with respect to (1.2) above, was verified with the DNA that the letter of approval is valid for the proposed CDM project activity under validation?	VVM	47	N/A		OK	OK
2. Participation						
2.1. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	N/A		OK	OK

CHECKLIST QUESTION	Ref.	§	comments		Draft Concl	Final Concl
2.2. Is the information in tabular form of section A.3 consistent with the contact details provided in Annex 1 of the PDD?	VVM	52	N/A		OK	OK
2.3. 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?	VVM	52	N/A		OK	OK
2.4. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	N/A		OK	OK
2.5. Has the approval of participation issued from the relevant DNA?	VVM	53	N/A		OK	OK
3. Project design document						
3.1. 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	Yes, the VCS-PD used for validation is in effect as of 19 November 2007 and is the latest version available in VCS website.		OK	OK
3.2. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Yes, PDD is in accordance with the applicable VCS requirements for completing the PDD. According to the comparison of the PDD with the PDD format, all titles have been included in the PDD.		OK	OK
3.3. In CDM-PDD section A.1 -Title of project -Current version number and date of document	EB 41	Ann 12	Project title, date and version are stated in the VCS PD version 1. Title of the project is indicated as “Otluca HPPs run-of-river hydro project”. Date of the PDD is 14 July 2010 and version of the document is 1.		OK	OK
3.4. In CDM-PDD section A.2, are following provided?	EB 41	Ann			OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
		12			
3.4.1. A brief description of the project activity covering purpose which includes the scenario existing prior to the start of project, project scenario and baseline scenario	EB 41 - VVM	Ann 12 - 58 59 60	Description of the project is given as "Otluca HPPs is a 46 MW run-of-river hydro power plant project. It consists of three sub-projects (Otluca-1, Boğuntu, Otluca-2) which are located at the upstream part of the Anamur River in Anamur district. The sub-projects are described as follows: **Otluca-1** is a medium head plant using a weir structure to divert Anamur river water into an intake structure with three de-sanding basins. From there it enters a tunnel of about 3.8 km length followed by an open canal of about 500 m length and followed again by a tunnel of about 2.2 km length until the water reaches a headpond. An intake from this pond takes it through a 507 m long penstock to the powerhouse. The combined capacity of the 3 turbines is 36.9 MW. **Boğuntu** uses the water of the Boğuntu River (tributary of the Anamur River) and is a medium head structure with the same system as Otluca 1. It has one de-sanding basin, starts with 162 m long open canal and continues with a 1.5 km long headrace tunnel to a headpond.	CL-17	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			The penstock is about 94 m long and leads with a head of 67.6 m to a power plant with 3 turbines. The installed capacity is 3.3 MW. The weir of **Otluca-2** is located only some 500 m downstream from where Otluca 1 and Boğuntu Projects feed the water back into the Anamur River. Otluca-2 diverts the water again to an intake structure and into three settlement ponds before it enters the conveyance system consisting out of 2 tunnels and 2 canals of an overall length of 1,547 m, out of which 1,137 m are tunnel. The water arrives at a headpond and feeds through a 57 m long penstock the powerhouse with 29.4 m head and 3 turbines. The combined installed capacity of 5.8 MW." Baseline scenario identified as electricity delivered to the grid by the project would have otherwise been generated by the operation of grid connected fossil fuel power plants. The project involves the constructions of a greenfield plant. Please indicate in more details the conditions prior to project scenario (i.e. land properties and usage).		

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.4.2. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	As indicated in Section 1.7, the project involves the constructions of a greenfield plant, it is not an alteration of an existing installation or process.	OK	OK
3.4.3. Explanation on how the GHG emission reductions effected.	EB 41	Ann 12	As indicated in Section 1.8, the emission reductions will be achieved by substituting electricity produced from the conventional electricity mix of the Turkish grid that depends to a large degree on fossil fuels.	OK	OK
3.4.4. The PP's views on the contribution of project activity to sustainable development	EB 41	Ann 12	The PP's views on the contribution of project activity to sustainable development are: Reducing Turkeys expanding energy deficit Diversification of Turkish electricity generation mix and reduction of import dependency Creation of local employment and income during construction and operation of HPPs (directly as well as indirectly via contracts with local providers for supply of construction material Foster infrastructural investments with connected development benefits to the local rural community in the remote project area	CAR-9	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			Please provide objective evidences for local employment. Please provide records for: -trainings for employees -local employment records (current) -local purchases -grant that local people will be employed during operation, too -occupational accident records Please justify that the project makes rural electricity supply more reliable.		
3.5. In CDM-PDD section A.3, are following provided in the tabular format? d) List of project participants and parties e) Identification of Host Party f) Indication whether the Party wishes to be considered as project participant	EB 41 VVM	Ann 12 51,52	In section 1.15 of the VCS PD v1, the following information is provided: The HPPs are operated and owned by **Beyobası Enerji Üretimi A.**S**.** The VCS project proponent is **Akfenhes Yatırımları ve Enerji Üretim A.**S**.** Akfen is involved in the engineering tasks of the project and also responsible party for the management of the VER project. Contact details of the responsible and company are provided.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			FutureCamp Türkiye is the other party involved as PD consultant.		
3.6. In CDM-PDD section A.4.1, are following provided?	EB 41	Ann 12		OK	OK
3.6.1. Physical description, location, host party(ies) and address as required	EB 41	Ann 12	Project contact data is provided in Section 1.15 of the VCS PD v1.	OK	OK
3.6.2. Detailed physical location with unique identification of the project activity (e.g. Longitude/latitude)	EB 41	Ann 12	Coordinates of the project are given in Section 1.5 of the VCS PD v1. Detailed physical location is identified with maps.	OK	OK
3.7. In CDM-PDD section A.4.2, is the list of categories of project activities provided?	EB 41	Ann 12	The respective sectoral scope is scope 1: "Energy Industry-Renewable/Non-renewable Sources"	OK	OK
3.8. In CDM-PDD section A.4.3, are following provided?	EB 41	Ann 12		OK	OK
3.8.1. A description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies)	EB 41	Ann 12	The specific environmental benefits are given as: Reduction of GHG emissions as attributable to conventional energy production in BAU scenario Creation of local employment during construction and operation of HPP Reduction of other pollutants from power generation in Turkey as compared to BAU	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			EIA not required document is presented to DOE. Project technology is an updated, current technology.		
3.8.2. Further explanation of purpose of project activity with scenario existing prior to the start of project, scope or present activities and the baseline scenario	EB 41	Ann 12	Purpose of project activity is explained in Section 1.4. of the VCS PD.	OK	OK
3.8.3. List and arrangement of the main manufacturing/production technologies, systems and equipments involved	EB 41	Ann 12	Description of the project is given as "Otluca HPPs is a 46 MW run-of-river hydro power plant project. It consists of three sub-projects (Otluca-1, Boğuntu, Otluca-2) which are located at the upstream part of the Anamur River in Anamur district. The sub-projects are described as follows: **Otluca-1** is a medium head plant using a weir structure to divert Anamur river water into an intake structure with three de-sanding basins. From there it enters a tunnel of about 3.8 km length followed by an open canal of about 500 m length and followed again by a tunnel of about 2.2 km length until the water reaches a headpond. An intake from this pond takes it through a 507 m long penstock to the powerhouse. The combined capacity of the 3 turbines is 36.9	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			MW. **Boğuntu** uses the water of the Boğuntu River (tributary of the Anamur River) and is a medium head structure with the same system as Otluca 1. It has one de-sanding basin, starts with 162 m long open canal and continues with a 1.5 km long headrace tunnel to a headpond. The penstock is about 94 m long and leads with a head of 67.6 m to a power plant with 3 turbines. The installed capacity is 3.3 MW. The weir of **Otluca-2** is located only some 500 m downstream from where Otluca 1 and Boğuntu Projects feed the water back into the Anamur River. Otluca-2 diverts the water again to an intake structure and into three settlement ponds before it enters the conveyance system consisting out of 2 tunnels and 2 canals of an overall length of 1,547 m, out of which 1,137 m are tunnel. The water arrives at a headpond and feeds through a 57 m long penstock the powerhouse with 29.4 m head and 3 turbines. The combined installed capacity of 5.8 MW".		
3.8.4. The emissions sources and GHGs involved	EB 41	Ann 12	The emissions sources and GHGs involved are given as CO2 emissions for the baseline and no project emissions.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			This is in line with the methodology.		
3.9. In CDM-PDD section A.4.4, is the estimation of emission reductions provided as requested in a tabular format?	EB 41	Ann 12	Estimations of annual emission reductions, the total amount of emission reductions over the crediting period and annual average of emission reductions are stated in section 1.3. of the VCS PD version 1.	OK	OK
3.10. In CDM-PDD section A.4.5, is information regarding public funding provided?	EB 41	Ann 12	Please indicate in the VCS PD that project does not obtain public funding.	CAR-10	OK
3.11. In CDM-PDD section (Baseline identification)	EB 41	Ann 12			
3.11.1. The approved methodology and version number	EB 41 VVM	Ann 12 69	The approved CDM methodology applied is “ACM0002: Consolidated methodology for grid-connected electricity generation from renewable sources, Version 12”.	OK	OK
3.11.2. Are the following applicability conditions of the methodology ACM0002 met?	VVM	70		OK	OK
3.11.2.1. This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plants); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).	ACM	0002	The project is a grid-connected renewable power generation project activity that is the installation of a new hydropower plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant). The selected methodology is convenient.	OK	OK
3.11.2.2. The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power	ACM	0002	The project is the installation of a hydro power plant/unit as validated in the site visit.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit					
3.11.2.3. In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the parameter EGPJ,y): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.			This is not a capacity addition, retrofit or replacement project so question is N/A.	OK	OK
3.11.2.4. In case of hydro power plants, one of the following conditions must apply: - The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or - The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m2; or - The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m2.	ACM	0001	In section 2.2 of the VCS-PD it is stated that the project results in construction of a new reservoir with a power density greater than 4 W/m2. Please justify.	CAR-11	OK
3.11.2.5. The methodology is not applicable to the following conditions. Please confirm • Project activities that involve switching from fossil fuels to	ACM	0002	Project does not involve switching from fossil fuels to renewable energy sources at the site of the project activity (validated in	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
renewable energy sources at the site of the project activity • Biomass fired power plants; • Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m2.			site visit) Project is not a biomass fired power plant (validated in site visit) the project results in construction of a new reservoir with a power density greater than 4 W/m2 (validated in site visit)		
3.12. 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	77 78	Boundaries are described correctly.	OK	OK
3.13. In CDM-PDD section B.3, are following provided? (a) Description of all sources and gases included in the project boundary in the table (b) A flow diagram of the project boundary physically delineating the project activity with all equipments, systems and flows of mass and energy etc	VVM EB 41	79 Ann 12	Sources and gases included in the project boundary are given as CO2 for baseline and no emissions for project activity. This is in line with the methodology. Technical overview drawings and coordinates are given in the VCS-PD.	OK	OK
3.14. Is an explanation how the most plausible baseline scenario is identified in accordance with the selected baseline methodology is provided in CDM-PDD section B.4?	EB 41	Ann 12	It is explained that the baseline scenario is identified as defined in ACM0002 via calculation of the combined margin calculation. Justification is carried out in Section 2.4.	OK	OK
3.14.1. If the project activity is the install a new grid-connected renewable power plant/unit (greenfield plant), is the baseline scenario identified appropriately in accordance with the ACM0002 Ver.10?	ACM	0002	The PP has selected the most reasonable baseline scenario for the project since the baseline scenario is the scenario that is defined in the selected methodology.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.14.2. If the project activity is a capacity addition to existing grid-connected renewable power plant/unit, is the baseline scenario identified appropriately in accordance with the ACM0002 Ver.10 and the point of time at which the generation facility would likely be replaced or retrofitted (DATE Baseline Retrofit) defined reasonably?	ACM	0002	The project activity is not a capacity addition. Question is N/A.	OK	OK
3.14.3. If the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit, is the baseline scenario identified following step-wise procedure in accordance with the ACM0002 Ver.10?	ACM	0002	The project activity is not a retrofit or replacement. Question is N/A.	OK	OK
3.14.3.1. Are the realistic and credible alternative baseline scenarios for power generation appropriately identified following the Step 1 of the "Combined tool to identify the baseline scenario and demonstrate additionality"? (Step 1)	ACM	0002	The project activity is not a retrofit or replacement. Question is N/A.	OK	OK
3.14.3.2. Are the realistic and credible alternative baseline scenarios i.e. P1, P2 and P3 appropriately applied **Barrier analysis** following the Step 2 of the "Combined tool to identify the baseline scenario and demonstrate additionality"? (Step 2)	ACM	0002	The project activity is not a retrofit or replacement. Question is N/A.	OK	OK
3.14.3.3. If more than one alternative is remaining after Step 2, is **Investment analysis** appropriately applied (apply an Investment Comparison as per step 3 of the "Combined tool to identify the baseline scenario and demonstrate additionality" or a Benchmark Analysis as per step 2b of the "Tool for the demonstration and assessment of additionality")? (Step 3)	ACM	0002	The project activity is not a retrofit or replacement. Question is N/A.	OK	OK
3.15. Does the PDD identify the baseline for the proposed	VVM	80	Yes, baseline is described as the scenario	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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?			that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity		
3.16. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	81	According to ACM0002, baseline for "project activities that are installations of new grid connected renewable power plants" is "electricity delivered to the grid by the project activity which would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources".	OK	OK
3.17. 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	Yes, the methodology and related tools are used to establish the baseline scenario: "Tool for the demonstration and assessment of additionality", Version 05.2 "Tool to calculate the emission factor for an electricity system", Version 02	OK	OK
3.18. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	82	No, according to ACM0002, baseline for "project activities that are installations of new grid connected renewable power plants" is "electricity delivered to the grid by the project activity which would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			sources".		
3.19. Are the documents and sources referred to in the PDD correctly quoted and interpreted And are they cross checked with other verifiable and credible sources, such as local expert opinion, if available? (identify the sources)	VVM	83	Baseline references have been checked and contain no problems. IRR references have been requested from the PP. Other references have been checked by the DOE.	OK	OK
3.20. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	84	There are no requirements to be taken into account in the identification of the baseline scenario for the proposed project activity. Please refer to Table 1-2.d.z.	OK	OK
3.21. Have all relevant policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	84	Policies and circumstances have been identified and correctly considered in the PDD.	OK	OK
3.22. 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	85	Baseline scenario is continuation of current situation and is identified as electricity delivered to the grid by the project activity which would have otherwise been generated by the operation of grid connected power plants. The grid is mainly fed by fossil fuels and the GHG source of baseline is combustion of fossil fuel. The justification is given in Section 2.4 of VCS PD.	OK	OK
3.23. In CDM-PDD section B.5, are following provided?	EB 41	Ann 12		OK	OK
3.23.1. Explanation and Justification of how and why this	EB 41	Ann	Additionality is demonstrated through	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology		12	investment analysis (approved by expert)		
3.23.2. Has the latest version of the "Tool for the demonstration and assessment of additionality" been used?	ACM	0002	Yes, the latest version of the "Tool for the demonstration and assessment of additionality" has been used.	OK	OK
3.23.3. 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	EB 41	Ann 12	Please provide objective evidences for dates indicated in Table A1-1 Implementation Schedule.	CAR-12	OK
3.24. In CDM-PDD section B.6.1, are following provided? (Algorithms and/or formulae used to determine emission reductions)	EB 41	Ann 12			
3.24.1. Explanation how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity	EB 41	Ann 12	ACM0002 refers to "Tool to calculate the emission factor for an electricity system" to calculate project emissions, baseline emissions, leakage emissions and emission reductions. "Tool to calculate the emission factor for an electricity system" version 02 is used in accordance with the selected methodology.	OK	OK
3.24.2. 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 methodology?	VVM	88	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
3.24.2.1. Are the Project emissions appropriately	ACM	0002	Project emissions are appropriately	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
calculated?			calculated		
3.24.2.2. Are the Baseline emissions appropriately calculated specifically for (a)greenfield plants or (b) retrofit and replacements or (c) capacity additions?	ACM	0002	Baseline emissions are appropriately calculated specifically for greenfield plants.	OK	OK
3.24.2.3. Are the Leakage appropriately calculated?	ACM	0002	The leakage is considered as zero in the section 4.3. of the VCS PD version 1 as no equipment has been transferred from or to another activity.	OK	OK
3.24.2.4. Are the Emission reductions appropriately calculated?	ACM	0002	Under section, 1.3 of the VCS PD version 1 it is stated that the expected annual generation is 207,640 MWh but according to the generation license annual generation is 224,000,000 kWh. Please clarify the annual generation of the project activity and revise the emission reduction calculation.	CAR-13	OK
3.24.3. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	89	The steps and equations applied are in accordance with the tool and ACM0002.	OK	OK
3.24.4. Does the methodology provide for selection between different options for equations or parameters?	VVM	89	"Tool to calculate the emission factor for an electricity system" version 02 provides different options in Steps 1, 2, 3, 4 and 5.	OK	OK
3.24.5. If yes, has adequate justification been provided and correct equations and parameters been used in accordance with the methodology selected?	VVM	89	Baseline information is given in the Annex 2 of the VCS PD version 1. The steps of the "Tool to calculate the emission factor for an electricity system" version 02 are applied. Please see below discussions for details and some discrepancies. • *Step 1:* The relevant electric power	CL-18	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			system is identified in accordance with the tool. • *Step 2:* This step is optional and there are two options in the step 2. Option 1 is chosen, only grid power plants are included in the calculation of operating margin and build margin emission factor. • *Step 3:* There are four methods for calculation of the operating margin emission factor. Since the average share of electricity generation by low-cost/must-run plants for five most recent years is found to be less than 50%, option (a) is chosen. The simple OM emission factor can be calculated using either of the two data vintages: Ex-ante option and ex-post option. The ex-ante option is selected to carry out the baseline methodology for the Project. • *Step 4:* There are two options (Option A and Option B) in the Step 4 of "Tool to calculate the emission factor for an electricity system" version 02. Option B is applied. • *Step 5:* In this step, a generation-weighted average emission factor is calculated based on a sample of		

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			power plants, which have been taken into operation recently. The sample group of power plants/units m used to calculate the build margin consists of two options (Option a and Option b). For conducting the calculations, Option b is selected, because this option results in a larger electricity generation. In terms of vintage data, there are two options available: Option 1 (ex-ante) and Option 2 (ex-post). The ex-ante option is selected. There are two options (Option A and Option B) in the Step 4 of "Tool to calculate the emission factor for an electricity system" version 02. However, three options (Option A, Option B and Option C) are given in the VCS PD version 1. Please clarify.		
3.24.6. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	89	Correct equations and parameters have been used in accordance with the selected methodology.	OK	OK
3.24.7. Appropriate and correct?	VVM	90	OM calculation excel sheet and explanation in the VCS PD version 1 are clear and correct. Efficiency figures and emission factors in the BM Calculation excel sheet are acceptable. Efficiency of coal is taken as	OK	OK

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			41.5% under the assumption that the plants use "fluidized technology". The efficiency for lignite has been calculated as the weighted average of the considered plants' efficiencies and it resulted in 38.63. This is very close to the efficiency figure for subcritical coal in the *"Tool to calculate the emission factor for an electricity system-Version 02"*, which 39% for units is built after 2000.		
3.24.8. Applicable to the proposed CDM project activity?	VVM	90	The project is an installation a new hydropower 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 ACM0002 that is applicable methodology to the greenfield plant.	OK	OK
3.24.9. Resulting in a conservative estimate of the emission reductions?	VVM	90	The approach for emission reductions is conservative.	OK	OK
3.24.10. 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	EB 41	Ann 12	The standards and factors used to derive GHG emission data as well as any supporting data are taken from the IPCC and TEIAS that are both publicly available.	OK	OK
3.24.11. Explanation and justification for the choice of the source of data	EB 41	Ann 12	Explanation of emission factor selection for each energy sources and references are given in section 3.3 of the VCS PD	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			version 1. No plant specific and national emission factor data is available in Turkey. So, IPCC default data is used. TEIAS (Turkish Electricity Transmission Company) is the national electricity transmission company, which makes available the official data of all power plants in Turkey.		
3.24.12. Clear and transparent references or additional documentation in Annex 3	EB 41	Ann 12	Clear and transparent references are given in Annex 2 of the VCS PD version 1.	OK	OK
3.24.13. 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 41	Ann 12	No measured values have been used. So, the checklist question is N/A.	OK	OK
3.25. In CDM-PDD section B.6.3, are following provided?	EB 41	Ann 12		OK	OK
3.25.1. 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 41	Ann 12	The standards and factors used to derive GHG emission data as well as any supporting data are taken from the IPCC and TEIAS that are both publicly available. The ex-ante calculation of project emissions, baseline emissions and leakage emissions met the demands of the methodology.	OK	OK
3.25.2. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 41	Ann 12	Each equation is explained in the VCS PD version 1 and the calculation can be reproduced.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.25.3. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 41	Ann 12	The information of baseline emission calculation is provided in Annex 2 of the VCS PD version 1. Excel sheet of the combined margin calculation is submitted to the validation team.	OK	OK
3.26. In CDM-PDD section B.6.4 are, the results of the ex ante estimation of emission reductions for all years of the crediting period, provided in a tabular format?	EB 41	Ann 12	The results of the emission reductions for all years of the crediting period are provided in section 1.3. of the VCS PD version 1.	OK	OK
3.27. In CDM-PDD section B.7.1, are following provided?	EB 41	Ann 12		OK	OK
3.27.1. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	EB 41	Ann 12	Data and parameters that need to be monitored are: - Quantity of electricity generation supplied by the project plant/unit to the grid in year y, **EGfacility,y** - Installed capacity of the hydro power plant after the implementation of the project activity, **CapPJ** - Area of the reservoir measured in the surface of the water, after implementation of the project activity, when reservoir full, **APJ** Besides these, parameters used for the calculation of combined margin are	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
			included in the monitored parameters table. Required information (data unit, sources, measurement methods, QA/AC procedures) for all parameters is provided in tabulated format.		
3.27.2. For each parameter the following below information, using the table provided:	EB 41	Ann 12		OK	OK
3.27.2.1. 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 41	Ann 12	For parameters EGfacility,y and Cap,pj project activity site is the source of data. Please indicate source of data for Apj. TEIAS, EPDK and IPCC are sources for parameters used for calculation of combined margin. These governmental sources are trustworthy.	CL-19	OK
3.27.2.2. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, how the measurement is undertaken: (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment.	EB 41	Ann 12	Measured parameters are: **EGfacility,y**: will be measured by electricity meters (Continuous measurement and at least monthly recording) measurement results will be cross checked with records for sold electricity	CL-20	OK

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			Cap,pj:Please clarify how this parameter will be monitored. **ApjJ** p: will be measured from topographical surveys / maps annually		
3.28. In CDM-PDD section B.7.2, is a detailed description of the monitoring plan provided?	EB 41	Ann 12		OK	OK
3.29. Are all data monitored as per monitoring methodology?	ACM	0002	Parameters necessary to be monitored are **EGfacility,y**, **Cap,pj a**nd **Apj** and these are included in the monitoring plan.	OK	OK
3.30. Are all data collected as part of monitoring archived electronically and kept at least for 2 years after the end of the last crediting period?	ACM	0002	It is indicated in Section 3.2. in the VCS PD that all data collected as part of monitoring archived electronically and kept at least for 2 years after the end of the last crediting period.	OK	OK
3.31. In CDM-PDD section B.8, are following provided?	EB 41	Ann 12		OK	OK
3.31.1. Date of completion of the application of the methodology to the project activity study in DD/MM/YYYY	EB 41	Ann 12	Please indicate in the VCS-PD the date of completion of the application of the methodology to the project activity study in DD/MM/YYYY.	CL-21	OK
3.31.2. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity	EB 41	Ann 12	Please include contact information of Futurecamp, the responsible for the application of the baseline and monitoring methodology to the project activity	CL-22	OK
3.31.3. Indication if the person/entity is also a project participant listed in Annex 1	EB 41	Ann 12	Please indicate if the person/entity is also a project participant listed in Annex 1	CL-23	OK
3.32. In CDM-PDD section C.1.1, are following provided?	EB 41	Ann 12		OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.32.1. Is the project's starting date clearly defined and evidenced?	EB 41	Ann 12	The Project Start Date is the date on which the project began reducing or removing GHG emissions.	OK	OK
3.33. In CDM-PDD section D., are the conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the Host Party, if environmental impacts are considered significant by the project participants or the Host, provided?	EB 41	Ann 12	EIA not necessary document (dated 26.12.2006) has been presented to DOE.	OK	OK
3.34. In CDM-PDD section E.1, are the following provided?	EB 41	Ann 12		OK	OK
3.34.1. 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 facilities comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.	EB 41	Ann 12	A meeting was held for stakeholders on 30.04.2010. Invitations were made via national and local newspaper ads. Please provide evidence that the comments by stakeholders were positive during the meeting.	CL-24	OK
3.34.2. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures.	EB 41	Ann 12	Please provide evidence that the project was explained in a clear and understandable manner.	CL-25	OK
3.34.3. The local stakeholder process has been, completed before submitting the proposed project activity to the DOE for validation.	EB 41	Ann 12	Yes, the LSC date is 30.04.2010. Validation started in October 2010.	OK	OK
3.35. In CDM-PDD section E.2, are following provided?	EB 41	Ann 12		OK	OK
3.35.1. Identification of local stakeholders that have made comments	EB 41	Ann 12	Please state which stakeholders have made comments.	CAR-14	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
3.35.2. A summary of these comments.	EB 41	Ann 12	Please provide objective evidence for stakeholder comments.	CAR-15	OK
3.36. In CDM-PDD section E.3 is the explanation of how due account have been taken of comments received from local stakeholders provided?	EB 41	Ann 12	No due account has been taken.	OK	OK
3.37. In CDM-PDD Annex 1, are the following provided?	EB 41	Ann 12		OK	OK
3.37.1. Contact information of project participants	EB 41	Ann 12	Contact data is provided for Akfenhes Yatırımları ve Enerji Üretim AS.	OK	OK
3.37.2. For each organization 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 41	Ann 12	All the required contact information is provided for Akfenhes Yatırımları ve Enerji Üretim AS.	OK	OK
3.38. In CDM-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 41	Ann 12	It is stated in section 1.13 that project does not obtain any public funding.	OK	OK
3.39. In CDM-PDD Annex 3, is the background information used in the application of the baseline methodology provided?	EB 41	Ann 12	Baseline calculations are provided in Annex 2.	OK	OK
3.40. In CDM-PDD Annex 4, is the background information used in the application of the monitoring methodology provided?	EB 41	Ann 12	No information related to monitoring is provided in Annexes.	OK	OK
4. Additionality of a project activity					

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1. General checklist for additionality					
4.1.1. Does the CDM-PDD state the latest version of the additionality tool being used?	VVM	94	Yes, the latest version of additionality tool is 5.2 and it is used in the project.	OK	OK
4.1.2. Were the steps taken of the "Tool for the Demonstration and Assessment of Additionality" to assess additionality used:	EB 39	Ann 10	Yes, the steps of the additionality tool version 5.2. are applied: Step 1: Identification of technically feasible baseline scenario alternatives to the project activity Step 2: Investment analysis Step 4: Common Practice Analysis	OK	OK
4.1.3. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10		OK	OK
4.1.3.1. The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Yes, the alternative of "The proposed project activity undertaken without being registered as a CDM project activity" is considered.	OK	OK
4.1.3.2. 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	Yes, the alternative of "Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services or services with comparable quality" is considered but not found to be realistic.	OK	OK
4.1.3.3. If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Continuation of the current situation (no project activity or other alternatives undertaken) is considered as an alternative.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.4. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly?	EB 39	Ann 10	Realistic and credible alternative scenario(s) to the project activity have been determined correctly.	OK	OK
4.1.5. 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, and outcome of Step 1.b is thus concluded?	EB 39	Ann 10	It is indicated in the VCS-PD that both remaining alternatives are in compliance with all mandatory applicable legal and regulatory requirements – not building a hydro power plant as well as building one.	OK	OK
4.1.6. 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	Alternatives are in compliance with all mandatory applicable legal and regulatory requirements. Question is N/A.	OK	OK
4.1.7. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	PP has selected to do Investment Analysis.	OK	OK
4.1.8. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10		OK	OK
4.1.9. In sub-step 2a has the determination of appropriate method of analysis done as per the guidance as below?	EB 39	Ann 10		OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.9.1. 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	It is stated that benchmark analysis is applied. Please discuss and eliminate each option with justifications. (Simple cost analysis, investment comparison analysis (Option II) or the benchmark analysis (Option III))	CAR-20	OK
4.1.9.2. Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	The benchmark analysis method is adopted based on the consideration of the equity IRR of the proposed project.	OK	OK
4.1.10. 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	Simple cost analysis is not applied	OK	OK
4.1.11. 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	Investment comparison analysis is not applied	OK	OK
4.1.12. Has the most suitable benchmark for the project been determined in Sub-step 2b?	EB 39	Ann 10	Threshold equity IRR for hydropower investments is the benchmark.	OK	OK
4.1.12.1. Which source shall the discount rates and benchmarks derived from? Please specify benchmark and justify.	EB 39	Ann 10	The world bank document is used for a referenced benchmark rate. Equity IRR is compared with the benchmark rate.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.13. 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	The IRR is calculated on the basis of expected cash flows (investment, operating costs and revenues from electricity sale), as used in the financial analysis for the feasibility assessment of the project.	OK	OK
4.1.13.1. Calculate the suitable financial indicator for the 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.	EB 39	Ann 10	All necessary costs are taken into consideration in the analysis.	OK	OK
4.1.13.2. 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	All calculations are transparent and easy to follow up.	OK	OK
4.1.13.3. Justify and/or cite assumptions.	EB 39	Ann 10	Assumptions are justified.	OK	OK
4.1.13.4. 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	The project risks are taken into consideration in the sensitivity analysis.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.13.5. 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	There is no unexpected figures the analysis inputs considering with the project size and etc.	OK	OK
4.1.13.6. 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 IRR calculated is compared by the IRR stated in the world bank document.	OK	OK
4.1.13.7. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 41	Ann 45	The analysis period is 42+2 (construction) which is higher than the VER crediting period.	OK	OK
4.1.13.8. 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 41	Ann 45	There is no need to calculate the fair value because all assets are depreciated fully within the analysis period.	OK	OK
4.1.13.9. 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 41	Ann 45	50$/kw is used for the yearly operating costs. There is no additional maintenance expense application regarding rehabilition. Please include rehabilitation costs in the analysis because of the long period of analysis period.	CL-37	OK
4.1.13.10. 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 41	Ann 45	48 years of analysis period is acceptable.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.1.13.11. 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 41	Ann 45	There is no need to calculate the fair value because all assets are depreciated fully within the analysis period.	OK	OK
4.1.14. 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	Sensitivity analysis shows that the financial/economic attractiveness is robust to reasonable variations in the critical assumptions. However, no scenario in the sensitivity analysis makes the project attractable.	OK	OK
4.1.15. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	Oıutcome is that: As resulting IRR for the project activity are clearly below the 15% benchmark, the project activity is unlikely to be economically attractive.	OK	OK
4.1.16. Have the barrier analysis been conducted?	EB 39	Ann 10	No, barrier analysis has not been conducted. Question is N/A.	OK	OK
4.1.17. In step 4: Common practice analysis has all the sub-steps as below followed?	EB 39	Ann 10		OK	OK
4.1.17.1. 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, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	Other activities similar to the proposed project activity have been analyzed. There is a contradiction in the sentence "Hence all those power plants not belonging to these companies cannot be considered similar to the proposed project activity." Please revise as necessary.	CL-26	OK
4.1.17.2. Has the below guideline followed for Sub-step	EB 39	Ann	It is indicated in the VCS-PD that	CL-27	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4b: Discuss any similar Options that are occurring?		10	"Discussion from the business model perspective show that only 1.9% of the existing electricity installation capacity is potentially similar to the project. Still if we consider the special features of the project, it is hard to identify most similar projects". Please clarify why it is hard to identify most similar projects.		
4.1.18. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Please provide an overall outcome for Step 4.	CL-34	OK
4.2. Prior consideration of the clean development mechanism					
4.2.1. Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	96	As this is a VCS project this CDM rule does not apply to the project. Prior consideration is demonstrated through VER consultant contract which is earlier than any action related to the project.	OK	OK
4.2.2. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	96	CDM awareness is proven by the confirmation by DOE, the date of first proposal from VER consultants.	OK	OK
4.2.3. 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	97	The Project Start Date is the date on which the project began reducing or removing GHG emissions.	OK	OK
4.2.4. Does the project activity require construction, retrofit or other modifications?	VVM	97	Yes, the project activity requires construction.	OK	OK
4.2.5. Is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	97	The date of commissioning is not considered as the project activity start date	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.2.6. Is it a new project activity (project activities with staring date on or after 02 August 2008) or an existing project activity (project activities with a start date before 02 August 2008)?	VVM	98	Project is Existing.	OK	OK
4.2.7. 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?	VVM	99	N/A	OK	OK
4.2.8. 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	100		OK	OK
4.2.8.1. 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,	VVM	100	Prior consideration is proved with request of proposals from VER consultants and documents are dated before the start date.	OK	OK
4.2.8.2. 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	VVM	100	Status is preserved.	OK	OK
4.3. Identification of alternatives					
4.3.1. 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	103	Yes, the methodology that is selected by the proposed project activity describes the baseline scenario and no further analysis is required.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.3.2. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	103	Question is N/A.	OK	OK
4.3.3. Does the list of alternatives given in the PDD ensure that: - One of the options that the project activity is undertaken without being registered as a proposed CDM project activity - The list contains all plausible alternatives - The alternatives comply with all applicable and enforced legislation	VVM	104	Alternatives to the project activity are given as: (a) The proposed project activity undertaken without being registered as a VER project activity; (b) Other renewable energy scenario(s) that could also deliver electricity with comparable quality, properties; (c) Continuation of the current situation, i.e. Saraçbendi hydro project is not built. Alternative (b) is not found to be realistic. Both remaining alternatives are in compliance with all mandatory applicable legal and regulatory requirements – not building a hydro power plant as well as building one and relevant laws are identified in section 1.10 as: (1) Electricity Market Law (2) Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy (3) Environment Law	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.4. Investment analysis					
4.4.1. If investment analysis has been used to demonstrate the additionality of the proposed CDM project activity , does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	106		OK	OK
4.4.1.1. The most economically or financially attractive alternative?	VVM	106	Please discuss if the project is not the most economically or financially attractive alternative.	CL-35	OK
4.4.1.2. Economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	106	Please discuss if the project is not economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)	CL-35	OK
4.4.2. Was this shown by one of the following approaches?	VVM	107		OK	OK
4.4.2.1. Demonstrate that the proposed CDM project activity would produce no financial or economic benefits other than CDM-related income.	VVM	107	Please discuss if the proposed CDM project activity would produce no financial or economic benefits other than CDM-related income	CL-35	OK
4.4.2.2. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	107	Please discuss if the project activity is less economically or financially attractive than at least one other credible and realistic alternative.	CL-35	OK
4.4.2.3. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	107	Please discuss if the financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	CL-35	OK
4.4.3. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of	VVM	109	Parameters and assumptions used in calculating the relevant financial indicator is checked by experts. No problems have	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
these parameters using the available evidence and expertise in relevant accounting practices conducted?			been determined.		
4.4.4. 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	109	All scenarios in the sensitivity analysis can happen by one by or together. The scenarios covered in the sensitivity analysis are all probable.	OK	OK
4.4.5. 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: a. Assessing previous investment decisions by the project participants involved, and b. Determining whether the same benchmark has been applied, or c. Determining if there are verifiable circumstances that have led to a change in the benchmark	VVM	110	These assessments are not done. However, there is no need to do these further studies because the difference between benchmark and calculated IRR is significant.	OK	OK
4.4.6. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed project activities?	VVM	111	Yes. FSR is approved by national authorities.	OK	OK
4.4.7. If yes: **(EB38 para.54)**	VVM	111			
4.4.7.1. 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	111	Please provide electromechanical contract and bank loan agreement (including the pages showing the date) as objective evidence for some of the IRR inputs (some of the cells B6-B32 in inputs sheet of IRR_OTLUCA_HPP_2010-07-14). For those which can not be validated through these documents (project and operation costs), please provide references.	CAR-16	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
4.4.7.2. Are the values used in the PDD and associated annexes fully consistent with the FSR? If not, was the appropriateness of the values validated?	VVM	111	Values are consistent with the FSR.	OK	OK
4.4.7.3. 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	111	Yes. FSR is approved by national authorities.	OK	OK
4.5. Barrier analysis					
4.5.1. Has barrier analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	113	Barrier analysis has not been carried out. Question is N/A.	OK	OK
4.5.2. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that: a. Prevent the implementation of this type of proposed CDM project activity? b. Do not prevent the implementation of at least one of the alternatives?	VVM	113	Barrier analysis has not been carried out. Question is N/A.	OK	OK
4.6. Common practice analysis					
4.6.1. Is this a large-scale or first-of-its kind small-scale project activity?	VVM	118	With 46 MW installed capacity this is a large scale project.	OK	OK
4.6.2. 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	Yes, common practice analysis was carried out as a credibility check of the other available evidence used by the project participants to demonstrate additionality.	OK	OK
4.6.3. Was it assessed whether the geographical scope (e.g. defined region) of the common practice analysis is	VVM	119	The geographical scope (e.g. defined region) of the common practice analysis is	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
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 trans-national /global.)			Turkish national grid.		
4.6.4. Was a region other than the entire host country chosen?	VVM	119	No, the entire country is chosen.	OK	OK
4.6.5. If yes, was the explanation why this region is more appropriate assessed?	VVM	119	Question is N/A.	OK	OK
4.6.6. 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, and have been undertaken in the defined region?	VVM	119	Please discuss in details the similar technologies.	CL-28	OK
4.6.7. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	119	Please indicate if the similar and operational projects are "widely observed and commonly carried out" in the defined region.	CL-29	OK
4.6.8. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	120	Please discuss the similarities and differences between project activity and similar activities.	CL-30	OK
5. Monitoring plan					
5.1. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM project activity?	VVM	120	Yes, the monitoring plan is based on the approved monitoring methodology applied.	OK	OK
5.2. Does the monitoring plan contain all necessary parameters?	VVM	121	Yes, necessary parameters have been included in the plan.	OK	OK
5.3. Are the monitoring arrangements described in the	VVM	121	Please provide more details on the	CL-31	OK

	CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
	monitoring plan feasible within the project design?			monitoring of the parameters.		
5.4.	Are the 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	121	Monitoring plan is sufficient to monitor emission reductions.	OK	OK
6.	Sustainable development					
6.1.	Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	123	Turkey is not a Party, question is not applicable.	OK	OK
6.2.	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	124	Turkey Has no DNA, question is not applicable.	OK	OK
7.	Local stakeholder consultation					
7.1.	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	126	Local stakeholders were invited to a meeting in the village on 30.04.2010.	OK	OK
7.2.	Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	127	Comments have been invited and it is stated in the LSC report that no negative comments existed. Please provide objective evidence for this statement.	CAR-17	OK
7.3.	Is the summary of the comments received as provided in the PDD complete?	VVM	127	Please include comments clearly in the LSC report.	CAR-18	OK
7.4.	Have the project participants taken due account of any	VVM	127	No due account has been taken.	OK	OK

CHECKLIST QUESTION	Ref.	§	comments	Draft Concl	Final Concl
comments received and described this process in the PDD?					
8. Environmental impacts					
8.1. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	129	EIA not necessary document (dated 26.12.2006) has been presented to DOE.	OK	OK
8.2. Have the project participants undertaken an analysis of environmental impacts?	VVM	130	EIA not necessary document (dated 26.12.2006) has been presented to DOE.	OK	OK
8.3. Does the host Party require an environmental impact assessment?	VVM	130	EIA not necessary document (dated 26.12.2006) has been presented to DOE.	OK	OK
8.4. If yes, have the environmental impact assessment approved by local government?	VVM	130	N/A	OK	OK

Table 3 Legal Requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Legal requirements					
1.1. Is the project activity environmentally licensed by the competent authority?	2	DR	EIA not required decision had been given by the Ministry of Environment and Forestry. EIA not required certificate is submitted to the validation team.	OK	OK
1.2. Are the conditions of the environmental license being met?	2	DR	"EIA not required certificate" has been submitted to the validation team as a proof of compliance with Environment Law.	OK	OK
1.3 Are the conditions of the Designated National Authority being met?	2	DR	There is no DNA in Turkey. Hence, the checklist question is N/A.	OK	OK

Table 4 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
CAR-1 Starting date of construction activities is set to be project starting date which is expressed in the VCS PD as 1/9/2009 but during the site visit it is told to the validation team that construction activities started in February 2008. Please clarify. Please discuss why the project start date is not the electromechanical contract date.	Table 1 2.a.b	Starting date of construction activities is February 2008 as mentioned on site visit. VCS PD is revised accordingly. Electromechanical contract date is May 2008, which is a later date from the construction starting date. Thus, project start date is the date construction activities started.	**Review 1:** Start date of construction activities is revised as February 2008. As this is VCS project start date should be the date when the project reduces GHG emissions.

			This CAR will be closed when CAR 19 is closed. <u>The clarification request is still open.</u> **Review 2:** "Investment decision date" is "start of construction activities". <u>The clarification request is closed.</u>
CAR-2 -In the VCS PD v1 Section 1.3., it is indicated that "with an installed capacity of 46 MW, annual electricity production of up to 207,640 MWh/year and baseline grid emission factor of 0.5502 tCO2/MWh is expected". Estimate of annual emission reductions are 114,243 tonCO2e. Total estimated reductions are 1,142,435 ton CO2e. Annual average of estimated emission reductions are 114,243 ton CO2e. -In the generation license figures for installed capacity is 47,7 MW, annual production is 224,000,000 kWh -In the VCS PD v1 Section 1.9, capacity is 46 MW, annual production is 202,449 GWh,	Table 1 2.d.d	Installed capacity of the project is calculated as 46 MW based on the electromechanical contract, and annual electricity production of the project is 207,640 MWh as calculated in Doğru Mühendislik Feasibility report, which was submitted to the DOE. Section 1.9 of VCS PD v1 is revised accordingly. **Response 1 to Review 1:** Number of units (9) is revised accordingly electromechanical contract in the Table 3.	**Review 1:** -Section 1.9 is now in line with section 1.3. -Electromechanical contract is available to DOE and the total of the contract makes 46 MW. The licence is revised for 8 turbines however the contract is for 9 turbines. Number of units is different in Table 3, too. Please clarify. -Annual electricity production of the project is 207,640 MWh and is calculated in Doğru Mühendislik Feasibility report, available to DOE.

which are different from the above figures. Please clarify.		**Response 2:** Turbine numbers in the Generation License and equipment contract is different but the total capacity of the plant is not exceed the figure which is mentioned in the generation license. In addition to that Otluca HPP will be approved in a one or two week. The document will be provided to the DOE if it is necessary.	The clarification request is still open. **Review 2:** The licence is revised for 8 turbines however the contract is for 9 turbines. Please clarify. The clarification request is still open. **Review 3:** Installed capacity is 46 MW. The clarification request is closed.
CAR-3 In section 1.9. of the VCS PD v1, it is indicated that "The 46 MW OTLUCA run-of-river HPP produces electricity for transmission into the national grid. The project is developed to generate electricity from the kinetic energy in the water of Anamur River. The Turbine type will be Francis vertical axis for Otluca 1 and Otluca 2 and Francis horizontal axis for Boğuntu. The generated energy of Otluca HPPs will be transmitted to Anamur switchyard which is 20 km	Table 1 2.d.j	Figures and information in Table 1-3 are put in line with VCS PD and the licence.	**Review 1:** Table 3 is in line with the rest of the PDD except for number of turbines. This confusion is discussed in another CAR. The clarification request is closed.

from Otluca-1 HEPP, where energy from all three plants is connected to the transmission line. The total annual electricity production of the project activity is expected to be 202.449 GW/year". Figures and information in Table 1-3 are different in the VCS PD than the licence. Please refer to Table 1 D.d. and clarify.			
CAR-4 The PD Template indicates that "the VCS PD shall include identification of relevant local laws and regulations related to the project and demonstration of compliance with them". In VCS PD v1, relevant laws and regulations have been identified (Electricity Market Law, Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity Energy, Environment Law) and it is stated that "compliance is demonstrated by the authorizations and operation permits obtained." Production license and EIA exemption are provided to DOE. Please provide water usage agreement and any other documents showing compliance with regulations (i.e. regarding waste management) Energy efficiency law is not included. Please clarify.	Table 1 2.d.k	All documents are provided. **Response 1 to Review 1:** Documents related to expropriation are submitted to the DOE. Land use agreement is provided to DOE No need to provide construction permit. Construction permit is secondary permits and there are many permits like that no need to show them all during validation process. Critical permission like license eia not required certificate are already submitted to DOE.	**Review 1:** Scrap tyre disposal documents, waste mineral oil disposal documents, waste vegetative oil disposal documents and wastewater treatment plant operation manual are provided to DOE as objective evidences for compliance with legal requirements. Gas, dust and noise measurement reports of the construction site are also provided Please provide objective evidences for: -land use agreement -construction permit -legal documents related to tree cut permissions and expropriations

Please provide objective evidences for: -land use agreement -any regulatory documents related to waste management (national waste transportation forms etc) -water usage agreement -construction permit -legal documents related to tree cut permissions and expropriations			<u>The clarification request is still open.</u> **Review 2:** Documents related to expropriation are submitted to the DOE. Land use agreement is provided to DOE. License and EIA not required documents are submitted to DOE. <u>The clarification request is closed.</u>
CAR-5 1) This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (reenfield plants); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s): <u>Project is a Greenfield project.</u> 2) The methodology is applicable under the following conditions: a) The project activity is the installation, capacity	Table 1 2.d.x	The project results in construction of a new reservoir with a power density greater than 4 W/m2. Installed capacity is divided by reservoir size and the result gives the power density of the project which is 930 W/m2. The drawing showing the reservoir areas is provided to the DOE. **Response 1 to Review 1:** Power density calculations are clearly performed under the section 4.3 of VCS PD.	**Review 1:** Methodology is applicable to the project. Please show clearly the calculation of the power density including the equations. <u>The clarification request is still open.</u> **Review 2:** Calculations of the power density including the equations is included in

addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit This is a hydropower project. b) In case of hydro power plants, one of the following conditions must apply: -The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or -The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m2; or -The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m2. It is indicated in the VCS PD v1 that the project results in construction of a new reservoir with a power density greater than 4 W/m2. Please justify. 3) The methodology is not applicable to the			the PD. The clarification request is closed.

following conditions. g) Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity The project does not involve switching from fossil fuels to renewable energy at the site of the project activity. h) Biomass fired power plants; Project is not a biomass fired power plant. i) Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m2. It is indicated in the VCS PD v1 that the project results in construction of a new reservoir with a power density greater than 4 W/m2. Please justify.			
CAR-6 According to ACM0002, CO2 emissions for the baseline and CH4 emissions from the reservoir of the project activity are the emissions to be included. Also, if the power density is greater than 4 W/m2, project emissions are zero. In the VCS PD v1, only CO2 emissions for the	Table 1 2.d.y	Power density is greater than 4 W/m2 which means CH4 and CO2 emissions from the reservoir are zero. **Response 1 to Review 1:** Power density calculations are clearly performed under the section 4.3 of VCS	**Review 1:** Please show clearly the calculation of the power density including the equations. The clarification request is still open.

baseline are included. Please refer to Table 1 D.x. and provide calculations regarding power density.		PD.	**Review 2:** Calculations of the power density including the equations is included in the PD. The clarification request is closed.
CAR-7 According to ACM0002, baseline for "project activities that are installations of new grid connected renewable power plants" is "electricity delivered to the grid by the project activity which would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources". Please revise the baseline statement in accordance with the methodology.	Table 1 2.d.z	Baseline statement is revised. **Response 1 to Review 1:** Baseline statement is revised under the section 2.4 of VCS PD.	**Review 1:** Please clearly state where the revised baseline statement is. The clarification request is still open. **Review 2:** Baseline statement is revised under the section 2.4 of VCS PD The clarification request is closed.
CAR-8 Issuance of the License, Requests for Proposals from Consultants for VER Development, mechanical contract, Initial Agreement with a VER Consultant, Financial Closure with Bank, Start of First Construction Activities, Signature with FutureCamp Türkiye for	Table 1 2.d.oo	Starting date of construction activities is set to be project starting date since, with this activities the project investor committed to the overall investment. Starting date of construction activities is February 2008 as mentioned on site visit. VCS PD is revised accordingly.	**Review 1:** Start date of construction activities is revised as February 2008. Financial Agreement date is 27/3/2009 as seen from the contract.

VER Development and Start of operation dates are provided. Please discuss why the start date is not the mechanical contract date. Please clarify why the start date in the PD is different than the date in site visit. Please provide objective evidences for all the dates.		Objective evidences for all dates given in the PDD are provided to the DOE. **Response 1 to Review 1:** The date in the PD is revised accordingly.	The date is different in the PD. Please clarify. The clarification request is still open. **Review 2:** All the dates are validated. The clarification request is closed.
CAR-9 The PP's views on the contribution of project activity to sustainable development are: - Reducing Turkeys expanding energy deficit - Diversification of Turkish electricity generation mix and reduction of import dependency - Creation of local employment and income during construction and operation of HPP (directly as well as indirectly via contracts with local providers for supply of construction material) - Foster infrastructural investments with connected development benefits to the local rural community in the remote project area - Making rural electricity supply more reliable, better available and cost efficient thanks to decreasing distances between generation and consumption points.	Table 2 3.4.4	Documents are provided to DOE. **Response 1 to Review 1:** Statement about the rural electricity is deleted.	**Review 1:** -Bills for local purchases are provided to DOE. -Certificates of safety trainings are provided to DOE. -List of local employees is provided to DOE. Please justify that the project makes rural electricity supply more reliable. The clarification request is still open. **Review 2:**

Please provide objective evidences for local employment. Please provide records for: -trainings for employees -local employment records (current) -local purchases -grant that local people will be employed during operation, too -occupational accident records Please justify that the project makes rural electricity supply more reliable.			The PP's views on the contribution of project activity to sustainable development are explained. The clarification request is closed.
CAR-10 Please indicate in the VCS PD that project does not obtain public funding.	Table 2 3.10	Statement is added to the VCS PD.	**Review 1:** It is stated in section 1.13 that project does not obtain any public funding. The clarification request is closed.
CAR-11 In section 2.2 of the VCS-PD it is stated that the project results in construction of a new reservoir with a power density greater than 4 W/m2. Please justify.	Table 2 3.11.2.4	Table 1 2.d.x **Response 1 to Review 1:** Power density calculations are clearly performed under the section 4.3 of VCS PD.	**Review 1:** Please show clearly the calculation of the power density including the equations. The clarification request is still open.

			Review 2: Calculations of the power density including the equations is included in the PD. The clarification request is closed.
CAR-12 Please provide objective evidences for dates indicated in Table A1-1 Implementation Schedule.	Table 2 3.23.3	Evidences are provided	**Review 1:** All dates are validated with documents. The clarification request is closed.
CAR-13 Under section, 1.3 of the VCS PD version 1 it is stated that the expected annual generation is 207,640 MWh but according to the generation license annual generation is 224,000,000 kWh. Please clarify the annual generation of the project activity and revise the emission reduction calculation.	Table 2 3.24.2.4	Expected annual generation is corrected to 207,640 MWh and the emission reduction calculations are revised. **Response 1 to Review 1:** Annual Generation is corrected due to Generation License that is 224,000 MWh.	**Review 1:** Annual generation data is corrected. Expert opinions will be obtained for ER calculations. The clarification request is still open. **Review 2:** Emission reductions are appropriately calculated.

			The clarification request is closed.
CAR-14 Please state which stakeholders have made comments.	Table 2 3.35.1	Supply of these documents is not a mandatory mission In the VCS Projects. **Response 1 to Review 1:** Please refer to FAR01.	**Review 1:** During the site visit, validation team has noticed some complaints of the stakeholders which are: -villagers are badly affected by the dust caused by project activity because fruit trees are damaged due to dust. -landscape is damaged. -the road to the village is damaged and PP told the villagers that they would fix the road when the construction is over -the water pipe of the village which was underground was damaged and repaired to be above the ground (to be later rebuild underground when the construction is over) -bridge that the villagers used was removed and the way to take animals to grazing extended by 20 km -PP offered the villagers that water for the fields will be provided from the project. A FAR will be raised for the

			monitoring of these complaints. The clarification request is still open. **Review 2:** The project has an EIA not required document and the Project Owner is committed to compensate the damages given during construction. The FAR is removed. The clarification request is closed.
CAR-15 Please provide objective evidence for stakeholder comments.	Table 2 3.35.2	Supply of these documents is not a mandatory mission In the VCS Projects.	**Review 1:** As original comments are not submitted to DOE, stakeholders comments are based on site visit notes of the validation team and are discussed in CAR 14. The clarification request is closed.
CAR-16 Please provide electromechanical contract and bank loan agreement (including the pages showing the date) as objective evidence for some of the IRR inputs (some of the cells B6-B32 in	Table 2 4.4.7.1	Documents are provided. **Response 1 to Review 1:**	**Review 1:** Please provide a table of IRR inputs (IRR input name, value, reference document and page number)

inputs sheet of IRR_OTLUCA_HPP_2010-07-14). For those which can not be validated through these documents (project and operation costs), please provide references.		All references were indicated in the cells next to the input data in the IRR calculation excel sheet.	The clarification request is still open.
		Response 2: Bank proposal document is provided to the DOE. Date of the document is 24.12.2007 which is before the investment decision date.	**Review 2:** The bank loan proposal document is dated to a date (28-11-2008) later than the investment decision date (1-2-2008). Please clarify. **Review 3:** Another bank loan proposal is provided which is dated to 24.12.2007 which is before the investment decision date.
		Response 2: Investment decision date is revised as construction agreement date which is 04.01.2008. Also an exchange rate in the IRR analysis is for this date.	Exchange rates are not for 1-2-2008 which is the investment decision date. Please clarify. **Review 3:** Investment decision date is revised as construction agreement date which is 04.01.2008. Also an exchange rate in the IRR analysis is for this date.

			The clarification request is closed.
CAR-17 Comments have been invited and it is stated in the LSC report that no negative comments existed. Please provide objective evidence for this statement.	Table 2 7.2	Supply of these documents is not a mandatory mission In the VCS Projects.	**Review 1:** As original comments are not submitted to DOE, stakeholders comments are based on site visit notes of the validation team and are discussed in CAR 14. The clarification request is closed.
CAR-18 Please include comments clearly in the LSC report.	Table 2 7.3	Supply of these documents is not a mandatory mission In the VCS Projects.	**Review 1:** As original comments are not submitted to DOE, stakeholders comments are based on site visit notes of the validation team and are discussed in CAR 14. The clarification request is closed.
CAR-19 The Project Start Date is the date on which the project began reducing or removing GHG emissions. In section 1.6 this date is stated as January 2011 and in section 7 July 2012 is stated. Please clarify.	Table 1 2.a.c	Project start date is revised as 01.04.2010. Also emission reduction calculations are revised accordingly. **Response 2:** Project start date is revised as 1st of April 2011.	**Review 1:** In VCS projects, “start date” is “commissioning date” (when the plant begins to generate emission reductions). “Investment decision date” is different than “start date” and it is the

Please provide updated information about the start of commercial operation and provide objective evidence if operation started. If the correct date is July 2012 please also correct table 1 information The validation was contracted on 16/07/2010. This CAR will be closed when the validation is about to end.		**Response:** Estimated start date of Project is corrected 1st of August 2011. Response: Statement in the section 7 is revised accordingly.	date of first real action of the project which is “start of construction activities” for Otluca. For Otluca, In section 1.6 and Table 1 “commissioning date” is stated as January 2011 and in section 7 July 2012 is stated. Please clarify. **Review 2:** Estimated start to electricity generation is April 2011. As this date is already in the past, please provide first meter reading protocol and approval documents if available. **Review 3:** Estimated start date is August 2011. “Investment decision date” is different than “start date” and it is the date of first real action of the project which is “start of construction activities” for Otluca. Please revise statemetn in Section 7

			of the PD. **Review 4:** Correction is made.OK
			Validation will be finished in 2 years after it was contracted. OK
			The clarification request is closed.
CAR-20 It is stated that benchmark analysis is applied. Please discuss and eliminate each option with justifications. (Simple cost analysis, investment comparison analysis (Option II) or the benchmark analysis (Option III))		Response: Sub-step 2a is revised accordingly..	**Review 1:** Options are discussed and eliminated correctly in sub step 2a. The clarification request is closed.
CAR-21 Emission reduction calculations for 2011 and 2021 are not correct. Please revise.			**Review 1:** Calculations are correct now. The clarification request is closed.
CL-1 The VCS PD, IRR calculation sheet, CM calculation sheet and project report are in English. "EIA Exemption Document" and "Production Licence" are in Turkish. Please provide English versions of these documents.	Table 1 1.c	The original Turkish version of the License and the "EIA not required certificate" contains the signature and is thus the appropriate documentation.	**Review 1:** EIA not required certificate and license are in Turkish. The clarification request is closed.
CL-2	Table 1 2.d.g.ii	Crediting period will be renewed two times. The statement is added to the	**Review 1:**

According to PD template, crediting period start date is the date the first monitoring period is commenced. In the VCS PD v1, it is stated that a renewable crediting period over 10 years shall apply and the first crediting period shall begin on start date of the commercial operation of the plant and last until 31 December 2021. Please indicate if the crediting period is to be renewed and how many times (mostly two times).		VCS PD.	It is indicated in the VCS-PD that crediting period is to be renewed two times mostly. The clarification request is closed.
CL-3 In section 1.7. of the VCS PD v1, it is indicated that this is a Greenfield project. Please give more details regarding the conditions prior to project initiation.	Table 1 2.d.h	Section 1.7 in the VCS PD is revised. **Response 1 to Review 1:** Section 1.7 of the Pdd is revised accordingly.	**Review 1:** Please provide details on how the land was used, what was in the project area etc. The clarification request is still open. **Review 2:** Project area is mostly forest area. The clarification request is closed.
CL-4 Please indicate if the document will be displayed on the VCS Project Database.	Table 1 2.d.u	The included VCS guidance from the blank PD template has been erased. Please refer to section 1.17.	**Review 1:** This response is not clear to

		Response 1 to Review 1: Section 1.17 of VCS PD is revised accordingly.	validation team. Please clarify. The clarification request is still open. **Review 2:** Documentary proof for Financial Analysis is a confidential document but it is available to DOE. The clarification request is closed.
CL-5 Please include a statement regarding the purpose of monitoring.	Table 1 2.d.ff.i	VCS PD is updated.	**Review 1:** Monitoring purpose is added to the PD as" The purpose of the monitoring is measurement and analysis of greenhouse gas emissions of the project within the project boundary in order to determine the amount of emission reductions that are attributable to the project". The clarification request is closed.
CL-6 According to the methodology: EG facility,y	Table 1 2.d.ff.ii	Monitoring methods and qa/qc procedures to be applied for parameter Cappj is added.	**Review 1:** All required information related to the parameters is given.

Cap pj Apj are the parameters to be monitored. The units, sources, measurement methods, QA/QC procedures are included in tabular format for all parameters but: -Please include monitoring methods and qa/qc procedures to be applied for parameter Cappj. - Please include source of data and qa/qc procedures to be applied for parameter Apj.		Source of data and qa/qc procedures to be applied for parameter Apj is given. **Response 1 to Review 1:** Related monitoring table is revised in the section 3.3.	Please clarify if "Records for sold electricity" are meter reading documents already? So can these documents be cross checked by themselves? Please clarify and also make se of PMUM data in the monitoring of EG facility. The clarification request is still open. **Review 2:** Monitoring of EG facility is clearly described. PMUM data is also used and explained. The clarification request is closed.
CL-7 Source of data is described as project site for each parameter but Apj. Please describe source of data for Apj.	Table 1 2.d.ff.iii	Table 12.d.ff.ii	**Review 1:** Source of data for Apj is revised as technical drawings from consultants. The clarification request is closed.
CL-8 EGfacility,y is monitored with electricity meters (Continuous measurement and at least monthly	Table 1 2.d.ff.iv	CapPJ parameter is indicated.	**Review 1:** Cappj is monitored from turbine

recording) APJ is monitored from topographical surveys / maps Please indicate how CapPJ paramater will be monitored.			generator supply agreement. The clarification request is closed.
CL-9 Please clearly describe monitoring roles and responsibilities.	Table 1 2.d.ff.vi	An explanation is added in section 3.4 for monitoring, roles and responsibilities.	**Review 1:** Technicians are responsible for meter readings and the responsibilities for other parameters will be defined in the monitoring plan. The clarification request is closed.
CL-10 Please describe how data quality will be managed for parameters to be monitored.	Table 1 2.d.ff.vii	Managing data qualities are stated in section 3.4. of the VCS PD. **Response 1 to Review 1:** More information about the related topics are added to the section 3.2 of VCS PD.	**Review 1:** In section 3.2. of the PD it is stated that "All measurements will be conducted with calibrated measurement equipment according to relevant standards". Please provide more information regarding calibration and standards. The clarification request is still open. **Review 2:** Detailed information is provided

			about calibration and meters. The clarification request is closed.
CL-11 Tabular format for parameters to be monitored includes "Description of measurement methods and procedures to be applied" information. Please fill in relevant information for Cappj parameter.	Table 1 2.d.gg.v	Cappj parameter is filled.	**Review 1:** Measurement method is "cross checking of instrument specifications with installed turbines". The clarification request is closed.
CL-12 Tabular format for parameters to be monitored includes "QA/QC procedures to be applied" information. Please fill in relevant information for Cappj and Apj parameters.	Table 1 2.d.gg.vi	Table 12.d.ff.ii **Response 1 to Review 1:** Related information is added to the EG facility table in the section 3.3	**Review 1:** Please indicate the QA/QC procedures for EG facility. The clarification request is still open. **Review 2:** Cross check measurement results with internal records for electricity generated shall be applied. The clarification request is closed.
CL-13 Site visit notes:	Table 1 2.d.nn	Repairing roads. Channels and bridge is still in progress when it is finalized DOE will be informed.	**Review 1:** Please provide information on

Alparslan Astepe (electrical engineer), Serkan Ozudogru (electrical technician) have been interviewed. Regulator 1 was about to be finished when the site visit has been conducted. Min 550 employees work in the site. Adem Karagöl, Yusuf Çınar (from Çaltıbükü village) and Yaşar Deniz (from Boğuntu village) have been interviewed. they say that: -dusting is a problem for fruit trees, company does not do enough water spraying. Please clarify how the damage to fruit trees will be compensated. -construction started in February 2008. -20 people work from Çaltıbükü village -Yaşar Deniz was unemployed before, not he work for the project -Durmuş Ali Şahin (village head of Çaltıbükü) says that: -Road to the village is very much damaged and villagers have been promised that road will be repaired when the construction is over. Also, a grant provided to the government includes only 5 km of the damaged road. The remaining 17 km are out of scope. Please clarify and provide grant that roads will be repaired to DOE.		**Response 1 to Review 1:** Please refer to FAR01.	current situation of these issues. A FAR will be raised do that these matters are investigated during verification. The clarification request is still open. **Review 2:** The project has an EIA not required document and the Project Owner is committed to compensate the damages given during construction. The clarification request is closed.

-Underground drinking water pipes have been damaged due to explosions and they have been reconstructed above ground and they may be subject to further damage. Please clarify if this piping will be transferred underground. -A bridge used by Sarıağaç, Ormancık, Çaltıbükü villages to transfer cattle to grazing land is damaged. The road is extended by 20 km by this. Please provide a plan about repairing the bridge. -Çaltıbükü and Sarıağaç villages have a shared canal for watering the fields. About 1 km of the canal is now damaged. PP offered to provide 20 lt/sn but governmental references adviced the villagers to agree for no less than 40 lt/sn. Please clarify. -villagers have a registered 80 lt/sn water from Dragon river but they don't have financial means for the construction of the canal. Please clarify if the PP will support the village for this construction.			
CL-14 Please clearly indicate the project boundary.	Table 1 2.g.b	Project boundary is clearly indicated. **Response 1 to Review 1:** Project boundary is indicated under the section 2.3 of VCS PD.	**Review 1:** While making any changes in the documents, please state where the change is made in the VCS PD. The clarification request is still open. **Review 2:**

			Project boundary is indicated under the section 2.3 of VCS PD. The clarification request is closed.
CL-15 Related laws have been stated in Section 1.10 of the VCS PD v1. Please refer to Table 1-2.d.k. Please provide water usage agreement and any other documents showing compliance with regulations (i.e. regarding waste management) Energy efficiency law is not included. Please clarify.	Table 1 2.g.h	Water usage agreement is provided. Energy is efficiency law is included to VCS PD section 1.10. **Response 1 to Review 1:**	**Review 1:** This CL will be closed when CAR-4 is closed. The clarification request is still open. **Review 2:** Documents related to expropriation are submitted to the DOE. Land use agreement is provided to DOE. License and EIA not required documents are submitted to DOE. The clarification request is closed.
CL-16 Please provide information regarding of electricity meters.	Table 1 2.h.c	It ıs stated in the VCS PD section 3.2	**Review 1:** This CL will be closed when CL-10 is closed. The clarification request is still open.

			Review 2: Detailed information is provided about calibration and meters. The clarification request is closed.
CL-17 Description of the project is given as "Otluca HPPs is a 46 MW run-of-river hydro power plant project. It consists of three sub-projects (Otluca-1, Boğuntu, Otluca-2) which are located at the upstream part of the Anamur River in Anamur district. The sub-projects are described as follows: **Otluca-1** is a medium head plant using a weir structure to divert Anamur river water into an intake structure with three de-sanding basins. From there it enters a tunnel of about 3.8 km length followed by an open canal of about 500 m length and followed again by a tunnel of about 2.2 km length until the water reaches a headpond. An intake from this pond takes it through a 507 m long penstock to the powerhouse. The combined capacity of the 3 turbines is 36.9 MW. **Boğuntu** uses the water of the Boğuntu River (tributary of the Anamur River) and is a medium head structure with the same system as Otluca 1. It has one de-sanding basin, starts with 162 m long open canal and	Table 2 3.4.1	Section 1.7 in the VCS PD is revised. **Response 1 to Review 1:**	**Review 1:** This CL will be closed when CL-3 is closed. The clarification request is still open. **Review 2:** Project area is mostly forest area. A brief description of the project activity including the scenario existing prior to the start of project, project scenario and baseline scenario is presented. The clarification request is closed.

continues with a 1.5 km long headrace tunnel to a headpond. The penstock is about 94 m long and leads with a head of 67.6 m to a power plant with 3 turbines. The installed capacity is 3.3 MW. The weir of **Otluca-2** is located only some 500 m downstream from where Otluca 1 and Boğuntu Projects feed the water back into the Anamur River. Otluca-2 diverts the water again to an intake structure and into three settlement ponds before it enters the conveyance system consisting out of 2 tunnels and 2 canals of an overall length of 1,547 m, out of which 1,137 m are tunnel. The water arrives at a headpond and feeds through a 57 m long penstock the powerhouse with 29.4 m head and 3 turbines. The combined installed capacity of 5.8 MW." Baseline scenario identified as electricity delivered to the grid by the project would have otherwise been generated by the operation of grid connected fossil fuel power plants. The project involves the constructions of a greenfield plant. Please indicate in more details the conditions prior to project scenario (i.e. land properties and usage).			
CL-18 Baseline information is given in the Annex 2 of the VCS PD version 1. The steps of the "Tool to calculate the emission factor for an electricity system" version 02 are applied. Please see below	Table 2 3.24.5	In Step-4, the options are revised to be Option A and Option B to be in line with the emission factor tool v2.	**Review 1:** Steps are in line with the methodology now.

discussions for details and some discrepancies. • *Step 1:* The relevant electric power system is identified in accordance with the tool. • *Step 2:* This step is optional and there are two options in the step 2. Option 1 is chosen, only grid power plants are included in the calculation of operating margin and build margin emission factor. • *Step 3:* There are four methods for calculation of the operating margin emission factor. Since the average share of electricity generation by low-cost/must-run plants for five most recent years is found to be less than 50%, option (a) is chosen. The simple OM emission factor can be calculated using either of the two data vintages: Ex-ante option and ex-post option. The ex-ante option is selected to carry out the baseline methodology for the Project. • *Step 4:* There are two options (Option A and Option B) in the Step 4 of "Tool to calculate the emission factor for an electricity system" version 02. Option B is applied. • *Step 5:* In this step, a generation-weighted average emission factor is calculated based on a sample of power plants, which have been taken into operation recently. The sample group of power plants/units m used to calculate the build margin consists of two options (Option a and Option b). For conducting the calculations, Option b is selected, because this option results in a			<u>The clarification request is closed.</u>

larger electricity generation. In terms of vintage data, there are two options available: Option 1 (ex-ante) and Option 2 (ex-post). The ex-ante option is selected. There are two options (Option A and Option B) in the Step 4 of "Tool to calculate the emission factor for an electricity system" version 02. However, three options (Option A, Option B and Option C) are given in the VCS PD version 1. Please clarify.			
CL-19 For parameters EGfacility,y and Cap,pj project activity site is the source of data. Please indicate source of data for Apj. TEIAS, EPDK and IPCC are sources for parameters used for calculation of combined margin. These governmental sources are trustworthy.	Table 2 3.27.2.1	Source of data is indicated.	**Review 1:** Source of data for Apj is technical drawings. The clarification request is closed.
CL-20 Measured parameters are: **EGfacility,y**: will be measured by electricity meters (Continuous measurement and at least monthly recording) measurement results will be cross checked with records for sold electricity	Table 2 3.27.2.2	Way of monitoring **Cap,pj** is clarified. **Response 1 to Review 1:**	**Review 1:** This CL will be closed when CL-6 is closed. The clarification request is still open. **Review 2:**

Cap,pj:Please clarify how this parameter will be monitored. **ApjJ** p: will be measured from topographical surveys / maps annually			Monitoring of EG facility is clearly described. QA/QC procedures are clearly explained too. The clarification request is closed.
CL-21 Please indicate in the VCS-PD the date of completion of the application of the methodology to the project activity study in DD/MM/YYYY.	Table 2 3.31.1	Date format is revised.	**Review 1:** The date of completion of the application of the methodology to the project activity study is 9/7/2010. The clarification request is closed.
CL-22 Please include contact information of Futurecamp, the responsible for the application of the baseline and monitoring methodology to the project activity	Table 2 3.31.2	Contact information is added.	**Review 1:** Contact information is added. The clarification request is closed.
CL-23 Please indicate if the person/entity is also a project participant listed in Annex 1	Table 2 3.31.3	The entity is not a participant of the project and VCS PD is revised accordingly.	**Review 1:** Required information is added. The clarification request is closed.
CL-24 A meeting was held for stakeholders on 30.04.2010. Invitations were made via national and local newspaper ads.	Table 2 3.34.1	Supply of these documents is not a mandatory mission In the VCS Projects.	**Review 1:** As original comments are not submitted to DOE, stakeholders

Please provide evidence that the comments by stakeholders were positive during the meeting.			comments are based on site visit notes of the validation team and are discussed in CAR 14. The clarification request is closed.
CL-25 Please provide evidence that the project was explained in a clear and understandable manner.	Table 2 3.34.2	Supply of these documents is not a mandatory mission In the VCS Projects. **Response 1 to Review 1:** Otluca is a VCS project, there is no need for non-technical summary which was used in LSC meeting.	**Review 1:** Please provide the non technical summary in Turkish which was used during LSC meeting. The clarification request is still open. **Review 2:** During site visit notes, it was observed that the local people were informed about the project. The clarification request is closed.
CL-26 Other activities similar to the proposed project activity have been analyzed. There is a contradiction in the sentence “Hence all those power plants not belonging to these companies cannot be considered similar to the	Table 2 4.1.17.1	The statement is revised. **Response 1 to Review 1:** Statement is revised. Also common practice analysis is revised.	**Review 1:** Please explain in a clear manner the differences or similarities of Otluca project from the projects which are listed as “generation companies” in table 12.

proposed project activity." Please revise as necessary.		**Response 2:** Similar projects are discussed under the section 2.5 in the sub-step 4b. Response: Common practice analysis is corrected and explained under the section 2.5 of the VCS PD.	The clarification request is still open. **Review 2:** Please discuss in more details the list of similar projects belonging to generation companies. The clarification request is still open. **Review 3:** The scope of common practice analysis is determined as "Turkish grid" but "generation companies only in Mersin" are discussed. Please discuss if it is appropriate and conservative to choose only one city for common practice analysis. If whole Turkish grid is chosen all generation companies should be discussed. The clarification request is still open. **Review 4:**

			East Mediterranean Basin is selected for common opractice analysis. There are 2 HPPs in operation in Mersin by the end of 2008 which are Pamuk (23.30 MW) and Birkapılı (48.5 MW). Pamuk has smaller scale when compared with Otluca. Birkapılı first had autoproducer licence. Boths projects are not comparable. The clarification request is closed.
CL-27 Other activities similar to the proposed project activity have been analyzed. There is a contradiction in the sentence "Hence all those power plants not belonging to these companies cannot be considered similar to the proposed project activity." Please revise as necessary.	Table 2 4.1.17.2	Response: Please refer to CL-26	**Review 1:** This CL will remain until CL-26 is closed. The clarification request is still open. **Review 2:** Similar options have been discused with enough details. The clarification request is closed.
CL-28 Please discuss in details the similar technologies.	Table 2 4.6.6	Table 9 given in the PDD shows all power plants in operation by the end of 2008, means these figures are including plants commissioned also in previous years.	**Review 1:** Table 9 is not a correct reference for all power plants in operation by the end of 2008. Please revise.

		EMRA website includes issued licenses. This is not equivalent to the actual number of plants in operation which shall be based on common practice analysis. Response: Please refer to CL-26.	This CL will remain until CL-26 is closed. The clarification request is still open. **Review 2:** Similar options have been discused with enough details. The clarification request is closed.
CL-29 Please indicate if the similar and operational projects are "widely observed and commonly carried out" in the defined region.	Table 2 4.6.7	There is no similar project in the defined region. **Response 1 to Review 1:** Similar projects are observed in the section 2. Of VCS PD. References are added and the statement is deleted. Response: Please refer to CL-26	**Review 1:** Please provide a reference for this expression: There is no similar project in the defined region". Please provide a reference for the sample group in part c of annex 2. The clarification request is still open. **Review 2:** Similar projects are observed in section 2. Of VCS PD.

			This CL will remain until CL-26 is closed. The clarification request is still open. **Review 3:** Similar options have been discused with enough details. The clarification request is closed.
CL-30 Please discuss the similarities and differences between project activity and similar activities.	Table 2 4.6.8	Table 9 given in the PDD shows all power plants in operation by the end of 2008, means these figures are including plants commissioned also in previous years. EMRA website includes issued licenses. This is not equivalent to the actual number of plants in operation which shall be based on common practice analysis.	**Review 1:** This CL will remain until CL-28 is closed. The clarification request is still open. **Review 2:** Similar options have been discused with enough details. The clarification request is closed.
CL-31 Please provide more details on the monitoring of	Table 2 5.3	Monitoring of the parameters are detailed.	**Review 1:**

the parameters.			Monitoring arrangements are now feasible. The clarification request is closed.
CL-32 Please provide DSI approval for feasibility report as the report is used to validate inputs to IRR analysis.		Response: DSI approval for feasibility report is provided to the DOE. Response: As mentioned in the regulations in article 10(http://www2.dsi.gov.tr/ska/yonetmelik_tamami.htm) without approval of the FSR by DSI, project owners can not sign the water usage aggreement. Otluca HPP has a water usage agreement and means that FSR of the Otluca HPP is aproved by DSI. Also a letter which is send by DSI is provided to the DOE. In the letter mentioned that FSR is aproved by DSI.	**Review 1:** DSI approval is not provided for Otluca HEPP. The clarification request is still open. **Review 2:** An official letter from DSI indicated that FSR is approved and project is in line with FSR. The clarification request is closed.
CL-33 Please define technical lifetime and operational lifetime of the project (providing references) as per CDM tools (for example EB50 annex 15)		Response: It is clarified under the section 2.5 of the VCS PD. Response: Equipment reneawal cost is based on the costs of the electromechanical equipments in the feasibilty report.	**Review 1:** Technical lifetime is calculated as 31 years. IRR i,s calculated for 48 years and equipment renewal cost is included in year 32. Please provide a reference for equipment renewal cost. The clarification request is still open.

			Review 2: FSR is the reference for equipment renewal costs. The clarification request is closed.
CL-34 Please provide an overall outcome for Step 4.		Response: Step 4 is revised.	**Review 1:** Outcome is provided. The clarification request is closed.
CL-35			**Review 1:**
Please discuss if the project is not the most economically or financially attractive alternative.		Response: It is discussed after the sensivity analysis in the VCS PD.	It is stated in PD that "the proposed project activity is not likely to be economically attractive without the revenues from VERs as even the maximum IRR result for best-case scenario (11.24%) is below the 15% benchmark".
Please discuss if the project is not economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)		Response: It is discussed after the sensivity analysis in the VCS PD.	It is stated in PD that "Thus the project is not the most economically and financially attractive alternative, without the revenue from the sale of certified emission reductions (CERs)".
Please discuss if the proposed CDM project activity would produce no financial or economic benefits other than CDM-related income		Repsonse: The agrrement with Beyobası and DSI is	Clarification is accepted.

		says that Beyobası can only sell the electricty that generated from the river , they have no other rights on the river other than that.	
Please discuss if the project activity is less economically or financially attractive than at least one other credible and realistic alternative.		Response: It is discussed after the sensivity analysis in the VCS PD.	It is stated in PD that "the proposed project activity is not likely to be economically attractive without the revenues from VERs as even the maximum IRR result for best-case scenario (11.24%) is below the 15% benchmark".
Please discuss if the financial returns of the proposed CDM project activity would be insufficient to justify the required investment.		Response: It is discussed after the sensivity analysis in the VCS PD.	It is stated in PD that "the proposed project activity is not likely to be economically attractive without the revenues from VERs as even the maximum IRR result for best-case scenario (11.24%) is below the 15% benchmark".
			The clarification request is closed.
CL-36 Please move the VAT line from P/L table to cash flow table.		Response: Vat line is moved from P/L to cash flow table.	**Review 1:** VAT line is moved to cash flow table The clarification request is closed.
CL-37 0$/kw is used for the yearly operating costs. There is no additional maintenance expense application regarding rehabilition.		Response: Renawal Cost is added to the IRR analysis.	**Review 1:** Please also include renewal costs in

Please include rehabilitation costs in the analysis because of the long period of analysis period.		Response: As mentioned in the IRR calculation sheet after 15 years Electromechanical and Hydromechanical Equipments have not any economical value. So fair value can not be added after 31 years. Response: Fair value calculation is revised accordingly.	fair value calculations. The clarification request is still open. **Review 2:** If equipment is renewed in 32nd year, please discuss if its depreciation should be included for the rest of the licence time as 32+15=47 years but licence will be durable for 45 years. Please clarify. When calculations are revised, plerase updatethe PDD if the IRR changes. The clarification request is still open. **Review 2:** Fair value calculations are corrected. The clarification request is closed.
CL-38 Please provide cover page of feasibility report so that date of the report can be seen. If the FSR is outdated, DOE will cross check if the FSR data s still applicable.		Response: Cover page of the fesibilty report will be provided to the DOE in the next round.	**Review 1:** FSR is dated to 2007. As costs are provided in foreign currency, prices

			are applicable. The clarification request is closed.
CL-39 Pirinclik HPP is referred. Please check.		Response: It is corrected.	**Review 1:** Correction is made. The clarification request is closed.
CL-40 Please explain in more details the usage of the project site and properties. It is stated that project area is forest. Please also explain if there was any settlement, was the project area used for any purposes etc. Please make your corrections as v8, over the clean copy (all previous tracked changes accepted) of the V7 of the PDD.		Response: It is explained under the section 1.7 of the VCS PD.	**Review 1:** More info about site usage is added to PD. The clarification request is closed.
CL-41 Please discuss all the applicability conditions of ACM0002 including the conditions when the methodology is not applicable to the project (for example: Project is not switching from fossil fuels, etc		Response: Applicability conditions of ACM0002 is stated and discussed under Section 2.1 of PD.	**Review 1:** Applicability conditions are discussed in details. The clarification request is closed.
CL-42 Please provide a reference for statement “Hence all those power plants not belonging to these companies cannot be considered similar to the proposed project activity. According to the business model parameter, only 1.93% of the		Response: It is explained in the PDD after the sentences.	**Review 1:** The number is found by dividing hydro capacity under the topic of Generation companies by total capacity.

installed capacity is potentially similar to Otluca HPP"			The clarification request is closed.
CL-43 In PDD it is stated that "Measured hourly and readings monthly. Monthly settlement notifications of PMUM consist hourly electricity production and withdrawn from the grid. Since the meters are reading electricity supplied to the system and withdrawn from the system separately, the net electricity amount supplied to the grid will be calculated by electricity supplied minus electricity withdrawn which will be taken from monthly settlement notifications." The PMUM readings are continuous. Please explain in details the procedure and please revise the whole PDD for any statements that you change.		Response: Monitoring parameters and data origin subtitle is revised accordingly.	**Review 1:** Monitoring procedure is clearly explained. "Hourly measurement" statement was confusing and removed". Monthly protocols will be used for monitoring and PMUM will be used for c ross check. The clarification request is closed.
CL-44 Please clarify the procedures for: -cross checking between two electricity meters, how wil the two meters used -how past data will be retrieved if a breakdown in the meters is noticed -what happens when one of the meters is found to be out of calibration Please explain in details.		Response: Cross check procedures is explained in the first table of section 3.3. Also in the same table it is tated that all records will be kept for two years. So if any breakdown happens these kept data could be retrieved. Cross checked data and past data could be used in case of any calibration failure.	**Review 1:** As two ammeters will back up each other, past data could be retrieved by the second ammeter if any break down happens. The clarification request is closed.
CL-45 The efficiency values for lignite power plants are not in line with the tool. Please clarify.		Response: Efficiency rates and CM calculations are corrected.	**Review 1:** Efficiency of lignite is taken as default value form the Annex 1 of the

			tool which is 39% for subcritical coal. Efficiency of coal is %41.5 and is taken from the tool, too. The clarification request is closed.
CL-46 It is still stated in the PDD that "The project activity begins with the commissioning of the hydro plant on 1st August 2011." As this is not true, please revise the expression to be in line with section 1.3.		Response: It is corrected.	**Review 1:** Calculations are corrected. The clarification request is closed.
CL-47 In the estimates of emission reductions table, please consider the dates of the expected start dates of operation for all 3 projects. Only one of the projects began production so far.		Response: It is stated in the VCS PD.	**Review 1:** Calculations are corrected. The clarification request is closed.
FAR-1 The following are the complaints of the villagers about the project: -villagers are badly affected by the dust caused by project activity because fruit trees are damaged due to dust. -landscape is damaged. -the road to the village is damaged and PP told the villagers that they would fix the road when the construction is over. Also, a grant provided to the government includes only 5 km of the damaged		Comments about the impacts of thee project are investigated and responses of project proponent to these comments are given below: -Fruit trees are far away from the project area. Also dust emission due to project activity was temporary, mainly during summer times. Hence impact of the dust emissions cannot be considered significant impact, - Temporary damage to the roads are	**Review 1:** The project has an EIA not required document and the Project Owner is committed to compensate the damages given during construction. The FAR is removed.

road. The remaining 17 km are out of scope. -the water pipe of the village which was underground was damaged and repaired to be above the ground (to be later rebuild underground when the construction is over) - A bridge used by Sarıağaç, Ormancık, Çaltıbükü villages to transfer cattle to grazing land is damaged. The road is extended by 20 km by this -Çaltıbükü and Sarıağaç villages have a shared canal for watering the fields. About 1 km of the canal is now damaged. PP offered to provide 20 lt/sn but governmental references adviced the villagers to agree for no less than 40 lt/sn. -villagers have a registered 80 lt/sn water from Dragon river but they don't have financial means for the construction of the canal. Current situation of the matters subject to complaints should be investigated.		inevitable consequences of such large projects. However, project proponent will repair all the roads damaged due to project activity. - After completion of the project, water pipelines will be transferred to underground. - All passages for livestock grazing will be reconstructed after construction. - Adequate water will be provided to the villagers for irrigation. - For new canal construction: this is not an issue relevant to project activity. Please kindly revise FAR-1 to make the points to be investigated specify and clear for verifier DOE.	
FAR2 Please observe on site how the possible deviations between two meters is monitored by Camlica elektrik and in which cases action is taken.			