

VALIDATION REPORT

TEPEKISLA DAM AND HYDROPOWER PLANT PROJECT



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Summary:

During the validation 2 Corrective Action Requests, 8 Clarification Requests were raised, all of which were closed out before the issuance of this validation report. 0 Forward Action Requests were raised during the validation.

In summary, it is re-consult's opinion that the project activity "Tepekisla Dam and Hydropower Plant Project" in Turkey, as described in the PD, version 3 dated 13/01/2015, meets all relevant UNFCCC requirements for the CDM, VCS and all relevant host Party criteria and correctly applies the baseline and monitoring methodology ACM0002, version 15. Hence, re-consult requests the registration of the proposed project activity as a GS project activity.

TABLE OF CONTENTS

1	INTRODUCTION	6
1.1	Objective	6
1.2	Scope and Criteria	6
1.3	Level of Assurance	7
1.4	Summary Description of the Project.....	7
2	VALIDATION PROCESS	7
2.1	Method and Criteria	7
2.2	Document Review	7
2.3	Interviews.....	9
2.4	Site Inspections.....	10
2.5	Resolution of Findings	10
2.6	Forward Action Requests.....	13
3	VALIDATION FINDINGS.....	14
3.1	Project Details	14
3.2	Application of Methodology.....	15
3.2.1	Title and Reference	15
3.2.2	Applicability	15
3.2.3	Project Boundary	15
3.2.4	Baseline Scenario	15
3.2.5	Additionality.....	16
3.2.6	Quantification of GHG Emission Reductions and Removals	21
3.2.7	Methodology Deviations.....	23
3.2.8	Monitoring Plan	23

3.3	Non-Permanence Risk Analysis	25
3.4	Environmental Impact.....	25
3.5	Comments by Stakeholders.....	25
4	VALIDATION CONCLUSION.....	26
	ANNEX 1: VALIDATION PROTOCOL.....	27
	ANNEX 2: VALIDATION TEAM AND ITR COMPETENCE	132
	Annex 2-1: Appointment Certificates	133

1 INTRODUCTION

1.1 Objective

re-consult Ltd. has been appointed by “Ark Enerji Uretimi Sanayi ve Ticaret A.S” to perform the validation of the “Tepekisla Dam and Hydropower Plant Project” in Turkey with the contract dated 09/05/2014 /D1/. The objective of this validation activity is to have an independent third party for the assessment of the project design, and to ensure a thorough assessment of the proposed project activity against the applicable VCS and CDM requirements. In particular;

- the project's baseline is assessed against “ACM0002/Version 15.0, Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources” /D2/
- the project's monitoring plan is assessed against “ACM0002/Version 15.0, Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources” /D2/
- the project's additionality justification is assessed against “Tool for the demonstration and assessment of additionality, Version 07.0” /D3/
- the project's compliance with, the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria
- CDM Validation and Verification Standard version 5 /D4/
- CDM Project Standard version 5 /D5/
- CDM Project Cycle Procedure version 5 /D6/
- VCS Version 3 /D7/

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 verified carbon units (VCUs).

1.2 Scope and Criteria

The scope of the validation is the independent and objective review of the VCS Project Description (PD). The PD is reviewed against the relevant criteria (see section 1.1) and decisions by the VCS Organization, including the approved baseline and monitoring methodology. The validation was based on the guidance given in the CDM Validation and Validation Standard version 5 /D4/, CDM Project Standard version 5 /D5/ and CDM Project Cycle Procedure version 5 /D6/ and VCS version 3 /D7/.

The validation team has employed a risk based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the PD. The main focus of the validation team is to identify the significant risks for the project implementation and the generation of VCUs. The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

The only purpose of the validation is its usage during the registration process as part of the VCS project cycle. Therefore, re-consult can't be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

1.3 Level of assurance

The level of assurance of the validation report is reasonable.

1.4 Summary Description of the Project

Ark Enerji, a subsidiary of Sanko Enerji A.S. plans to install Tepekisla Hydro Electric Power Plant in the Erbaa county of the city of Tokat, in Turkey.

Tepekisla HEPP, which is comprised of the construction of a green field 69.627 MWe hydroelectric power plant located in the Kelkit river which one is the longest tributary of the Yesilirmak river basin, in Turkey's Middle Black Sea Region. The plant has been projected to comprise Tepekisla Dam, cofferdam of upstream and downstream, penstock, a headpond, a spillway and a powerhouse, having 2 SAM turbines of horizontal axis with 32.993 MWe power each and one Francis turbines of horizontal axis with 3.641 MWepower (Revised License /D28/). Electricity production of the proposed project is going to be 241,098 MWh/year, with a plant load factor computed as 39.5%. The average annual emission reductions of the proposed project for the crediting period are estimated to be 114,337 tonnes of CO₂e.

2 VALIDATION PROCESS

2.1 Method and Criteria

The validation of proposed VCS project activity includes the following phases:

- Assessment whether the project design of the proposed project activity meets the relevant VCS requirements, via a desk review of the PD between 01/10/2014 and 05/10/2014.
- Assessment whether the applied methodology ACM0002 v15 /D2/, has been applied correctly, including the baseline selection and monitoring plan.
- Assessment of the additionality argument of the project activity against the rules and guidance given in “tool for the demonstration and assessment of additionality”, Version 07.0.0 /D3/.
- A site visit was conducted on 18/11/2014 to assess the implementation process of the project activity and to confirm stakeholders' comments.
- Assessment of data and calculation of greenhouse gas emission reductions.
- Issuance of the validation report
- Independent technical review (ITR)
- Approval of the validation report and request of registration

The Validation Protocol is used for the assessment of each requirement during the execution of validation activities and is given in Annex-1 of this validation report.

The Validation Protocol is fulfilled by the validation team in line with the descriptions above and all the CARs, CLs and FARs are listed in a transparent and clear manner.

2.2 Document Review

The basis for the validation activity is the PD version 01, dated 22/09/2014 /D9/ which was submitted to the validation team on 22/09/2014. This PD was revised due to the raised CARs and CLs, version 3 dated 13/01/2014 being the final version. The PD was assessed against;

- the project's baseline is assessed against “ACM0002/Version 15.0, Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources” /D2/

- the project's monitoring plan is assessed against "ACM0002/Version 15.0, Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources" /D2/
- the project's additionality justification is assessed against "Tool for the demonstration and assessment of additionality, Version 07.0" /D3/
- the project's compliance with, the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria
- CDM Validation and Verification Standard version 5 /D4/
- CDM Project Standard version 5 /D5/
- CDM Project Cycle Procedure version 5 /D6/
- VCS Version 3 /D7/

The list of the documents which were reviewed during the validation period is given in the Table 2-1 below:

Table 2-1: List of documents reviewed

Document Number	Document Name	Version	Date (dd/mm/yyyy)
D01	Contract with Re-consult	-	09/05/2014
D02	ACM0002	15	Valid from 01 Jun 14 to 27 Nov 14
D03	Tool for the demonstration and assessment of additionality	7	Valid from 23 Nov 2012
D04	CDM Validation and Verification Standard	5	23/11/2012
D05	CDM Project Standard	5	03/12/2012
D06	CDM Project Cycle Procedure	5	03/12/2012
D07	VCS	3	-
D08	Revised Feasibility Report	-	January 2013
D09	PD	1	22/09/2014
D10	PD	2	05/12/2014
D11	PD	3	13/01/2014
D12	Generation License	1	15/11/2012
D13	Tool to calculate emission factor for an electricity system	4	-

Document Number	Document Name	Version	Date (dd/mm/yyyy)
D14	EIA Report	-	April 2011
D15	EIA approval	-	08/06/2011
D16	Water Usage Agreement	-	01/10/2012
D17	Permission letter for the use of forestry lands	-	12/06/2013
D18	Electromechanical Equipment Contract	-	28/06/2013
D19	Construction Contract	-	04/06/2013
D20	The letter related to credit condition from the financier	-	12/03/2013
D21	Reservoir area drawings	-	-
D22	Emission reduction calculation excel sheet	1	22/09/2014
D23	IRR calculation excel sheet	1	22/09/2014
D24	IRR calculation excel sheet	2	05/12/2014
D25	IRR calculation excel sheet	3	13/01/2014
D26	Common practice excel sheet	-	22/09/2014
D27	PD	3	13/01/2015
D28	Revised license	-	14/01/2015
D29	Emission reduction calculation excel sheet	2	13/01/2014

2.3 Interviews

During the validation period follow-up interviews were realized by the validation team to further analyze the correctness and accurateness of the information provided.

The list of people who were interviewed during the validation period is given in the Table 2-2 below:

Table 2-2: List of persons interviewed

Reference Number	Means of Interview ¹	Full Name	Title	Organization
I01	SV	Gurkan Bayraktar	Consultant	GAIA
I02	SV	Funda Ozdemir	Consultant	GAIA
I03	SV	Cem Gofer	Energy Engineer	Sanko
I04	SV	Taner Sengonul	Industrial Engineer	Sanko
I05	SV	Muhsin Dervisogullari	Environmental Engineer	Sanko
I06	SV	Nuri Işık	Site Manager	Sanko

2.4 Site Inspections

As a part of the validation activities a site visit was performed to the project activity site, details of which can be seen in the Table 2-3 below:

Table 2-3: Site visit details

Date	18/11/2014	
Location	Tokat	
Participant	Company Name	Role in the Organization / Role in the Site Visit
Gurkan Bayraktar	GAIA	Consultant
Funda Ozdemir	GAIA	Consultant
Cem Gofer	Sanko	Energy Engineer
Taner Sengonul	Sanko	Industrial Engineer
Muhsin Dervisogullari	Sanko	Environmental Engineer
Nuri Işık	Sanko	Site Manager
Points Verified	Source of Information	
Additionality, calculations, reference documents	interview	
Additionality, calculations, reference documents	interview	
Plant specifications	interview	
Plant specifications	interview	
Environmental issues	interview	
Subcontractors, safety issues	interview	

2.5 Resolution of Findings

The validation of proposed VCS project activity includes the following phases:

¹ SV: Site visit; T: Telephone; E: E-mail

- Assessment whether the project design of the proposed project activity meets the relevant VCS requirements, via a desk review of the PD between 01/10/2014 and 05/10/2014.
- Assessment whether the applied methodology ACM0002 v15, has been applied correctly, including the baseline selection and monitoring plan.
- Assessment of the additionality argument of the project activity against the rules and guidance given in “tool for the demonstration and assessment of additionality”, Version 07.0.0.
- A site visit was conducted on 18/11/2014 to assess the implementation process of the project activity and to confirm stakeholders’ comments.
- Assessment of data and calculation of greenhouse gas emission reductions.
- Issuance of the validation report
- Independent technical review (ITR)
- Approval of the validation report and request of registration

The Validation Protocol is used for the assessment of each requirement during the execution of validation activities and is given in Annex-1 of this validation report.

The Validation Protocol consists of two tables:

- Table 1 (Project Description and VCS validation requirements) and
- Table 2 (Resolution of Corrective Action, Forward Action and Clarification Requests)

The usage description of Table-1 in Validation Protocol is explained in Table 2-4 below:

Table 2-4: Explanation about Table-1 in Validation Protocol

Question	Reference	MoV*	Findings, comments, references and document sources	Draft & Final Conclusion
The requirements related with the VCS project description and validation	Gives reference to the legislation or documents where the relevant requirement is found	Explains how conformance with question is investigated. Examples of means of validation are Document Review (DR), Interview (I) and Not Applicable (NA)	Is used to elaborate and discuss the question and/or conformance to the question by giving related references and document sources based on which the finding is issued or evidence is checked	Either acceptable based on the evidence provided (OK), non-compliance with the requirement (CAR), further clarification (CL) due to insufficient, unclear or not transparent information, forward action request (FAR) that needs to be solved during the first verification

The usage description of Table-2 in Validation Protocol is explained in Table 2-5 below:

Table 2-5: Explanation about Table-2 in Validation Protocol

Draft Report Clarifications, Forward Action and Corrective Action Requests by Validation Team	Ref. to Questions in Table-1	Summary of Project Participants' Response	Validation Team Conclusion
The all CL, FAR and CARs determined during the draft validation report should be listed here	Gives reference to the checklist questions in Table-1 of Validation Protocol	Is used to summarize the responses by project participants regarding the non-conformities	Is used to summarize the responses by validation team and their conclusions

The Validation Protocol is fulfilled by the validation team in line with the descriptions above and all the CARs, CLs and FARs are listed in a transparent and clear manner.

During the validation period, a Validation Protocol which is attached in Annex 1 to this validation report was used to submit the findings to the project participants.

In line with re-consult internal terminology and VCS version 3, the team reports the non-conformities in the forms of Corrective Action Requests (CARs), Clarification Requests (CLs) and Forward Action Requests (FARs). When and for which type of non-conformities CARs, CLs and FARs are issued are explained below. The Validation team raises a **CAR** if one of the following occurs:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions
- The CDM and/or VCS requirements have not been met
- There is a risk that emission reductions cannot be monitored or calculated.
- The Validation team raises a **CL** if information is insufficient or not clear or not transparent enough to determine whether the applicable CDM and/or VCS requirements have been met.
- The Validation team raises a **FAR** during validation to highlight issues related to project implementation that require review during the first verification of the project activity.

According to these principles total of 2 CARs, 8 CLs and 0 FARs were raised all of which are listed in the Validation Protocol.

The appointment process of the validation team takes into account the technical area(s), sectoral scope(s), and relevant host country experience required amongst team members for the accurate and thorough assessment of the project design. The relevant VCS validation and previous ITR

experiences are also assessed during the selection of the team members and Independent Technical Reviewer (ITR), respectively. The validation team and ITR are assigned to this validation activity on 15/05/2014 taking all the above factors into consideration and as a result of the contract review process.

The validation team members and ITR are given in Table 2-6 below:

Table 2-6: Validation team and ITR details

Name	Role	Host Country Experience	Scope Coverage	Technical Expertise	Financial Expertise	Involvement *
Seda YUCEL	Team Leader	☒	☒	☒	☐	DR,SV,R
Anıl SÖYLER	Validator	☒	☒	☒	☐	DR, R
Seza DANISOGLU	Financial Expert	☒	☐	☐	☒	DR
Praveen PYATA	ITR	☒	☒	☒	☒	ITR

Please list all the team members and ITR.

* Explanations for the abbreviations used for involvement types are as follows:

A : Administrative

DR : Desk Review

SV : Site Visit

R : Reporting

ITR : Independent Technical Review

2.6 Forward Action Requests

The Validation team raises a FAR during validation to highlight issues related to project implementation that require review during the first verification of the project activity as explained in the Section 2.5.

According to these principles total of 0 FARs were raised.

3 VALIDATION FINDINGS

3.1 Project Details

Project Proponent Ark Enerji, a subsidiary of Sanko Enerji A.S. plans to install Tepekisla Hydro Electric Power Plant in the Erbaa county of the city of Tokat, in Turkey. Consulting company is GAIA.

Tepekisla HEPP, which is comprised of the construction of a green field 69.627 MWe hydroelectric power plant located in the Kelkit river which one is the longest tributary of the Yesilirmak river basin, in Turkey's Middle Black Sea Region. The plant has been projected to comprise Tepekisla Dam, cofferdam of upstream and downstream, penstock, a headpond, a spillway and a powerhouse, having 2 SAM turbines of horizontal axis with 32.993 MWe power each and one Francis turbines of horizontal axis with 3.641 MWepower. Electricity production of the proposed project is going to be 241,098 MWh/year, with a plant load factor computed as 39.5%. The average annual emission reductions of the proposed project for the crediting period are estimated to be 114,337 tonnes of CO₂e.

The crediting period of the project begins on 31 March 2015 which is the expected commissioning date of the plant. Initial crediting period is 10-years. VCS project crediting period will be renewed once which will make the total crediting period 20 years. The end date of the first crediting period is 31 March 2025.

Since the estimated annual emission reductions resulting from the project is less than 1,000,000 tCO₂e, the category of the project is defined as "Project".

The project complies with all aforementioned laws as its activity aims at generating electricity by using a renewable resource, hydroelectric power, in a sufficient, low-cost and environmentally-friendly manner, using the latest technology available in the market. Due to its low impact to the environment the project was not required to conduct an EIA study by Ministry of Environment of Turkey.

The ownership of the emission reductions will belong to Ark Enerji Üretimi Sanayi Ve Ticaret Anonim Şirketi. This aspect is validated by Generation License /D12/.

Net GHG emission reductions or removals generated by the project will not be used for compliance with an emissions trading program or for meeting binding limits on GHG emissions.

The project has not created another form of Environmental Credit.

The Project has not been registered or seeking registration under other GHG programs.

The Project has not been rejected by other GHG programs.

Tepekisla HEPP is not a grouped project.

There is no information that needs to be excluded from the public version of the VCS PD which will be displayed on the VCS Project Database.

The description of the project is accurate, complete, and provides an understanding of the nature of the project.

3.2 Application of Methodology

3.2.1 Title and Reference

For the purpose of calculating the emission factor of the Turkish electricity grid, “Tool to calculate emission factor for an electricity system”, Version 04.0 /D13/ is employed. The baseline and monitoring plan for the project was established through the official methodology of ACM0002/Version 15.0, “Large-scale Consolidated Methodology: Grid-connected electricity generation from renewable sources” as approved by the CDM Executive Board. The official methodology: “Tool for the demonstration and assessment of additionality, Version 07.0 /D03/” was used to prove additionality and calculate the grid emission factor. Conservative options and data were selected during the implementation of the methodology.

3.2.2 Applicability

The methodology is applicable to grid-connected renewable power generation activities under below conditions:

- The project activity is a Greenfield grid connected HEPP
- PD > 10 W/m², therefore, according to the methodology, there will be no emissions from the reservoir.

Hence, the approved consolidated methodology ACM0002/Version 15.0.0 is applicable to the project activity.

3.2.3 Project Boundary

The greenhouse gasses and emission sources are defined for the project activity and the baseline scenario. As per the methodology, “the spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to”.

Physical delineation of the project boundary is correctly provided.

CO₂ emission from fossil fuel fired power plant that are displaced since project activity was taken into account.

For the purpose of determining the electricity emission factor, the project electricity system is defined as the overall Turkish electricity network.

The identified boundary and the selected sources and gases for the project activity are correctly stated by the PP and validated by DOE.

3.2.4 Baseline Scenario

The baseline scenario is identified in the methodology ACM0002/Version 15.0 as follows:

If the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is “Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the “Tool to calculate the emission factor for an electricity system””.

The identified baseline scenario is justified by DOE.

3.2.5 Additionality

The project's additionality has been demonstrated using the latest version of the "Tool for the demonstration and assessment of additionality"- Version 07.0.0.

In accordance with this tool, prior consideration of the CDM, identification of alternatives, investment analysis and common practice analysis have been checked by the validation team through document review, on-site visit and interview. re-consult Ltd. confirm that all data, rationales, assumptions and justifications presented in the PDD and documentation provided by PPs to support the demonstration of additionality are reliable and credible.

3.2.5.1 Prior Consideration

The time table below demonstrates the workflow in order to achieve VER registration:

Table 3-1: Timeline of the project activity

Project Timeline and Timeline of events and actions which have been taken to achieve VCS-VER registration events and action	Date	Evidence
Final Project Description Report for EIA Process /D14/	April 2011	EIA Report
EIA approval (by the Ministry of Environment and Forestry /D15/	08 June 2011	Positive EIA Certificate
Water Usage Agreement /D16/	01 October 2012	Water Usage Agreement with DSI
Generation Licence /D12/	15 November 2012	The Generation Licence
Revised Feasibility Report /D8/	January 2013	The Feasibility Report
Permission letter for the use of forestry lands /D17/	12 June 2013	Permission Letter
Electromechanical Equipment Contract /D18/	28 June 2013	Electromechanical Agreement
Construction Contract /D19/	04 June 2013	Construction Agreement
The letter related to credit condition from the	12 March 2013	Loan Agreement

Project Timeline and Timeline of events and actions which have been taken to achieve VCS-VER registration events and action	Date	Evidence
financier /D20/		

According to VCS rules, to show prior consideration, project has to be validated in two years time after project start date, which is the case for Tepekisla.

3.2.5.2 Project alternatives

In the absence of the proposed project activity, plausible and credible project activities to the proposed project activity are as follows:

- Construction of a thermal power plant with the same annual power output
- The proposed project activity not undertaken as a VER project activity
- The same service of power supply is provided from the grid

Construction of a thermal plant with the same annual electricity output is a realistic alternative. The proposed project activity not undertaken as a VER project activity is not realistic as proved in financial analysis. DOE validates that the alternatives discussed above are in line with applicable legal and regulatory requirements.

3.2.5.3 Investment analysis

Method

Option III: Benchmark Analysis is selected as the analysis method and the Equity IRR is selected as the financial indicator for the demonstration of the additionality of the project.

Benchmark Analysis is selected in project since:

-simple cost analysis (Option I) is not appropriate, because the proposed project generates financial or economic benefits through the sales of electricity other than VCU related income. This is in line with Tool for the Demonstration and Assessment of Additionality.

-investment comparison analysis (Option II) is not appropriate because this option is applicable to projects whose alternatives are also investment projects, however the alternative baseline scenario of the proposed project is the continuation of the supply of electricity by the grid rather than a comparable investment project. This is in line with Guidelines on the assessment of investment analysis

Hence re-consult Ltd. Confirms that the adoption of Benchmark analysis (Option III) is appropriate.

Benchmark

When using the benchmark analysis option, the equity IRR has been used as the project owner's decision is based on the equity IRR.

According to the “Tool for the demonstration and assessment of additionality” (Version 07.0.0), in the cases of projects which could be developed by an entity other than the project participant, the relevant benchmark for a Project’s equity IRR should be based on publicly available data sources which can be clearly validated by the DOE. The benchmark for a Project’s equity IRR shall, therefore, be derived from Turkish Eurobonds rates, plus a risk premium calculated by using the average market risk correlation factors (beta) of the equity returns of the publicly traded energy companies in the Borsa Istanbul and Turkey’s risk premium. Benchmark Rate is calculated as 14.23 %.

Inputs

The technical assumptions along with construction and M&E costs are calculated per DSI and other international standards by an independent advisor to the project owner. The feasibility study was the base for the investment decision.

IRR inputs are listed as below in Table 3-2:

Table 3-2: IRR inputs of the project

Input name	Input Value	Reference Document	Page Number	Date of Document
Capacity	69,627 MWe	The Revised Licence /D28/	-	14/01/2015
Annual energy production	241,098 MWh/year	The Revised Feasability Report /D8/	38	January 2013
Operational life time	46 years	Licence agreement /D12/	-	15/11/2012
Electricity sales price	7.3 (USD cents/kWh)	Guaranteed purchase price by law number: 6094 Ratification Date: 29.12.2010 (“Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy”) http://www.tbmm.gov.tr/kanunlar/k6094.html	2	29/12/2010
O&M expenses	1,748,094 \$	The Revised Feasability Report /D8/	361	January 2013

Input name	Input Value	Reference Document	Page Number	Date of Document
Renovation expenses	149,618 \$	The Revised Feasability Report /D8/	361	January 2013
Total investment	134,389,444 \$	The Revised Feasability Report /D8/	361	January 2013
Depreciation (as useful life)	Roads: 8 years Transmission line: 30 years Buildings: 40 years Electromechanical equipment: 15 years	State Revenue Admin: http://www.gib.gov.tr/fileadmin/user_upload/Yararli_Bilgiler/amortisman_oranlari2011.html	-	-
Anticipated price of VCS-VERS	3-5.0 USD/tCO ₂ ²	Assumption by the Consultant	-	-
Average 3 month Libor rate	0.2819%	http://www.global-rates.com/interest-rates/libor/american-dollar/2013.aspx	—	—
Interest on loan	LIBOR USD 3 months + 3.75 %	The letter related to credit condition from the financier /D20/	—	12/03/2013
Other Loan Conditions	9 years	The letter related to credit condition from the financier /D20/	—	12/03/2013

Input name	Input Value	Reference Document	Page Number	Date of Document
Crediting period (carbon)	10 + (10) years	VCS Standard Version 3.2	Section 3-8.1	4 October 2012
Rf, Risk-free rate	5.50 %	http://www.isyatirim.com.tr/WebMailer/files_att/2_20130603083910857_1.pdf	–	–
B, Beta. Used to measure level of risk.	1.035	The average of betas of the energy companies traded in ISE 100 from Reuters.	–	–
Risk premium	8.30 %	http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html	–	–
Benchmark Rate	14.23 %	$Re = Rf + \beta \times \text{Risk premium}$	-	-

The cash flow was prepared for 46 years, generation licence period minus the investment lag. Technical lifetime of the electromechanical equipment is interpreted from the feasibility study. A reinvestment of USD 26,940,000 is foreseen at the end of year 35 (during the technical lifetime of the electromechanical equipment).

The equity IRR of the total investment of the proposed project without VCS-VERs sales revenue is 11.09%, lower than the benchmark IRR of 14.09% which means that the proposed project activity indeed faces significant financial barriers. Therefore, the project activity is not the most economically or financially attractive choice of investment.

The calculations were verified and found to be correct by re-consult. The assumptions used in the calculations were deemed to be correct by re-consult.

Sensitivity analysis

Sensitivity analysis has been carried out for Investment Cost ($\pm 10\%$), Operating Cost ($\pm 10\%$) and Electricity Sales revenue (generation and sales income) ($\pm 10\%$). All the variables not included in sensitivity analysis which constitute less than 20% do not have material impact on the analysis. Reasonable variations of the above stated parameters were checked.

	-10%	10%
Investment Cost	12.05	10.19

Operational Cost	11.22	10.90
Electricity Generation	9.50	12.64
Electricity Price	9.50	12.64

None of the parameters in the sensitivity analysis are considered to have any significant effect.

It is seen that project is not the most attractive option. Therefore project is considered as additional to the baseline scenario.

In conclusion, re-consult was able to confirm that this project activity is financially unattractive even after considering the possible fluctuation of the main parameters, and the above analysis is appropriate and in line with para.117-122 of Validation and Verification Standard version 03.

3.2.5.4 Barrier analysis

No barrier analysis is used for additionally justification.

3.2.5.5 Common practice analysis

There are 752 plants in operation in Turkish grid as of the end of 2012 and 451 of them are renewable energy projects. Among them there are 353 hydro projects.

The installed capacity of the project is 69.627 MWe. Therefore, the lower limit of the applicable output range is 34.8135 MWe and the upper limit is 104.4405 MWe. There are 55 such projects.

All the plants chosen started operation before the project as they were already in operation in 2011.

Calculating F with the formula is meaningless as $N_{all}=55$, and thus $N_{similar}$ is zero,

The proposed project activity is a "common practice" within a sector in the applicable geographical area if the factor F is greater than 0.2 and $N_{all}-N_{diff}$ is greater than 3. Therefore the project is not common practice as $N_{similar}$ is zero

Common practice analysis excel file is submitted to DOE. Re-consult Ltd. validation team could validate the conclusion of the PP that the construction of Tepekisla without VER income is not a common practice in Turkey.

Based on the validation in 4.7 of this report, in summary, it is clearly demonstrated that the project is not a likely baseline scenario and the emission reductions are additional to what would have happened in absence of the project activity.

3.2.6 Quantification of GHG Emission Reductions and Removals

For calculation of the emission factor of Turkish Grid, "Tool to Calculate the Emission Factor for an Electricity System", has been used.

Since the share of low-cost / must-run sources is below 50%, method (d) is eliminated. Also due to insufficient data available, methods (b) and (c) are not considered and thus (a) simple OM method is used in calculations.

Option a: A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) is calculated according to the procedures prescribed in the 'Tool to calculate the emission factor for an electricity system'(version 3). Seven steps of the tool are implemented as below:

Step1: Turkish national grid is identified as the relevant electric power system

Step2: Only grid power plants are included in the calculation (there are no off-grid power plants in Turkey)

Step3: Egrid, OM, y is calculated as the generation-weighted average CO2 emissions per unit net electricity generation (tCO2/MWh) of all the generating plants serving the system, excluding low-cost/must-run power plants. As electricity generation from solar and low cost biomass facilities is insignificant and there are no nuclear plants in Turkey, the only low cost /must run plants considered are hydroelectric, wind and geothermal facilities.

Under this option, the ex-ante approach is selected. Data for calculating the three year average is obtained from the period 2010 – 2012, the most recent data available at the time of PDD submission to the DOE.

Low cost/must run resources and the equations used are provided in the PDD.

Step 4: Egrid, OM, y has been calculated using option B which is based on Based 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.

For the calculation of the Simple OM, the amount of fuel consumption (Fci, y) and heating values of fuels are taken from website of TEIAS, the official source of related data. The NCV of the fuels consumed have been calculated using data from the TEIAS web page. The emission factors required for calculation of CO2 emission coefficient have been obtained through IPCC 2006 guidelines for GHG inventories for fuels. Net electricity generated and supplied to the Grid by thermal plants has been calculated using data obtained from the TEIAS web page.

Egrid, OM, y = 0.659 tCO2/MWh

Step 5: Option1 is chosen to calculate the build margin emission factor. SET≥20% is selected as (SETsample) because the set of power units that comprises the larger annual electricity generation. There is no power units in SETsample started to supply electricity to the grid more than 10 years ago. Egrid, BMs, y is calculated as the generation-weighted average emission factor of a sample of power plants “m” for a specific year. The default efficiencies stated in the tool are used (39% default efficiency factors for coal and lignite power plants and 39.5% default efficiency factors for oil power plants).

Egrid, BM, y = 0.290 tCO2/MWh

Step 6: Egrid, CM, y = 0.5 *0.659 + 0.5 * 0.290 = 0.474

Calculation of emission reductions:

The baseline emissions are to be calculated as follows:

$$BE_y = EG_{PJ,y} * EF_{grid,CM,y}$$

BE_y Baseline emissions in year y (tCO₂)

EG_{PJ,y} Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the VCS project activity in year y(MWh/yr)

$EF_{grid,CM,y}$ 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*”.

Since the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity:

$$EG_{PJ,y} = EG_{facility,y} = 241,098 \text{ MWh/year}$$

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

$$BE_y = 0.474 \times (241,098 - 0) = 114,337 \text{ tCO}_2\text{e} = ER_y$$

There are no project emissions or leakage emissions. The project has a reservoir area validated via drawings /D21/ of 2,319,000 m² and power density PD is calculated as 30.02 W/m²

$$PD > 10 \text{ W/m}^2$$

Therefore, $PE_{HP,y} = 0$

Hence, $PE_y = 0$

Annual emission reductions are given in PD and are validated by emission reductions spreadsheet.

All assumptions and data used by the project participants are listed in the PD and/or supporting documents including their references and sources. All documentation used by the project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PD. All values used in the PD are considered reasonable in the context of the proposed VCS project activity. The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. All estimates of the baseline, project and leakage emissions can be replicated using the data and parameter values provided in the PD.

3.2.7 Methodology Deviations

There are no methodology deviations.

3.2.8 Monitoring Plan

The approved baseline and monitoring methodology ACM0002/version 15.0: “Large Scale Consolidated Methodology: Grid-connected electricity generation from renewable sources” is applied.

According to the methodology, the monitoring plan covers the following parameters required to be monitored:

- Quantity of net electricity generation supplied by the project to the grid in year y - $EG_{facility,y}$
- Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full - A_{PJ}
- Installed capacity of the hydro power plant after the implementation of the project activity - Cap_{PJ}

As per the methodology, data and parameters available at validation are:

- Turkey's Gross Electricity Generated by primary energy source for the five most recent years (2008 - 2012)- $EG_{gross, y}$
- Installed capacity of the hydro power plant before the implementation of the project activity - Cap_{BL}
- Amount of fossil fuel type i consumed in the project electricity system in year y - $FC_{i, y}$
- Net calorific value of fossil fuel type - $NCV_{i, y}$
- Default CO_2 emission factor of fossil fuel type i - $EFCO_{2, i, y}$
- Electricity imported to the Grid from other countries - Electricity Imports
- Set of power capacity additions in the electricity system that comprise 20% of the system generation (in GWh) and that have been built most recently - Electricity Capacity Additions
- Average net energy conversion efficiency of power unit m in year y - $\eta_{m, y}$
- Net electricity generated by power plant/unit m in year y - $EG_{m, y}$
- The CO_2 emission factor of the grid power unit m (Default CO_2 emission factor of fossil fuel types are used) - $EF_{L, m, y}$
- Weight of operating margin emissions factor - W_{OM}
- Weight of built margin emissions factor - W_{BM}

Data will be recorded for each crediting period and maintained at least 2 years after its end. The company will establish a dedicated maintenance system to ensure the data availability for the required period.

For electricity generation data, the periodical check for the meters is 1 year as stated in Article 3.3 of the TEIAS System Usage Agreement. If there is a measuring difference between these two meters and one of the parties (TEIAS or the company) requests for calibration of the meters, in this case, the meters will be calibrated without waiting for the periodical check. This calibration process is done by another third party under the control of TEIAS. The company is not responsible for calibration of the meters in Turkey according to the local standards. In all calculations, the main meter's measurements will be used. The generated electricity will be measured continuously and reported in a monthly basis. The plant manager of Tepekisla HEPP will be responsible for providing the measurement records which show the monthly electricity generation of the company. The quantity of net electricity delivered to the grid will be also cross checked with the production and internal electricity usage figures provided from the "Monthly Meter Reading Protocols". The project developer is not responsible for the transmission losses; therefore transmission losses are not included. During the each monitoring period, PMUM records and Monthly Meter Reading Protocols will be presented to the DOE, together with the calculation details.

The Electrical Engineers will receive sufficient and continuous training in terms of monitoring and verification on aspects such as meter's reading and calibration and reading's recording, adjustment and reporting every year. If new personnel are hired, they will have to follow up a training program and will be trained in the specific skills required to carry out the Monitoring Plan.

The second data to be monitored is the installed capacity of the project activity. The installed capacity of the Project is equal to the total installed capacities of the equipment implemented at the beginning of the project's life. The installed capacity will be monitored from supplier's documents related to the equipment. The installed capacity only changes if the project design is

changed. If there are any changes regarding the installed capacity of the project, EMRA has to be informed about this change. The company will report the installed capacity changes in each monitoring period, if there is any and this information will be checked from EMRA website. The plant manager will be responsible to provide the data.

The third data to be monitored is the reservoir area. The reservoir area will be calculated by a computer program which will be processed with the drawings received from the project design company as a result of the topographical surveys. The possible maximum surface area of the reservoir will be calculated.

The plant management of Ark Enerji Üretimi Sanayi Ve Ticaret Anonim Şirketi is responsible with all monitoring and reporting issues in general

Re-consult Ltd. Can confirm that the list of parameters that need to be monitored ex post is complete and consistent with ACM0002 and that the monitoring plan is in compliance with the applied monitoring methodology.

By document review and interview with project owner, it is confirmed by the validation team that the monitoring plan can be properly implemented and all monitoring arrangements are feasible within the project design, and the means of implementation of the monitoring plan, including data management and quality assurance and quality control procedures, are sufficient to ensure that the ERs to be achieved by the project activity can be properly reported and verified.

3.3 Non-Permanence Risk Analysis

Not Applicable.

3.4 Environmental Impact

According to the Turkish law, a comprehensive EIA report is required from the projects which have a 25 MW or exceeding amount of installed capacity. Smaller HEPPs are subject to selection and elimination criterion. After an investigation of the project, EMRA found that the environmental precautions taken by Tepekisla HEPP were sufficient and decide 'Positive EIA'(EIA-Not-Required) certificate for the proposed project granted by the Ministry of Environment and Forestry stating that the proposed project does not cause any environmental damage.

Before the initiation of the Project, all local public authorities like the Mayor of Tokat were informed about the Project. Apart from the local public authorities, some NGOs and mukhtars of local villages have been interviewed and informed about the Project. The provincial directorate of environment also regularly follows the environmental impact issue and listens to the complains of the local people.

Via site visit observations re-consult validates that project did not have environmental impacts during construction stage.

3.5 Comments by Stakeholders

According to the regulations, projects which have "EIA is not required" are not subject to an obligation to hold Stakeholder Meetings. Therefore, a stakeholder meeting has not been planned. Nevertheless, mukhtars of local villages have been interviewed and continuously informed about the Project.

4 VALIDATION CONCLUSION

re-consult Ltd. has performed the validation of the “Tepekisla Dam and Hydropower Plant Project” in “Turkey” between 01/10/2014 and 07/01/2015. The validation was performed on the basis of VCS criteria, UNFCCC criteria for the CDM and Host Party criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The validation has been performed by a validation team consisting of “Seda YUCEL as team leader, Seza DANISOGLU as financial expert and Praveen PYATA as ITR”, and the project activity was checked against the applicable rules and regulations of CDM including CDM Validation and Verification Standard version 5, CDM Project Standard version 5 and CDM Project Cycle Procedure version 5, VCS version 3.

re-consult Ltd. hereby confirms that the proposed project activity “Tepekisla Dam and Hydropower Plant Project” in Turkey, has applied all relevant EB-guidance as the selected baseline and monitoring methodologies and the associated methodological tools have been applied correctly. Total emission reductions from the project are estimated to be on the average 114,337 tCO₂e per year over the selected 10 year crediting period. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

As a result, the validation team assigned by the re-consult Ltd. concludes that the proposed Project Activity “Tepekisla Dam and Hydropower Plant Project” in Turkey, as described in the PD (v3, 13/01/2015)

- meets all relevant Host Country criteria;
- meets all relevant requirements of the VCS project activities [including VCS version 3, Article 12 of the Kyoto Protocol, the Modalities and Procedures for CDM (Marrakesh Accords) and the subsequent decisions and guidance by the COP/MOP and the CDM Executive Board];
- applies correctly the baseline and monitoring methodology ACM0002/version 15.0: “Large Scale Consolidated Methodology: Grid-connected electricity generation from renewable sources”;
- its additionality is sufficiently justified in the PD;
- is likely to achieve estimated emission reductions;

Therefore, re-consult requests the registration of the proposed project activity as a VCS project activity.



SEDA YUCEL
Team Leader
25.02.2015



Praveen PYATA
ITR
25.02.2015



Anıl SÖYLER
Certification Manager
25.02.2015

ANNEX 1: VALIDATION PROTOCOL

Table 1 – VCS Project Description and CDM Validation Requirements

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
Cover Page and General Requirements					
1. Are all items in the box at the bottom of the cover page completed using Arial 10pt, black, regular (non-italic) font?	VCS Std. Version 3.4	DR	Yes	OK	OK
2. Are the followings provided at the cover page in a tabular format?	VCS Std. Version 3.4	DR	All provided correctly.	OK	OK
2.1. Name of the project?	VCS Std. Version 3.4	DR	All provided correctly.	OK	OK
2.2. Version number of the VCS PD?	VCS Std. Version 3.4	DR	All provided correctly.	OK	OK
2.3. The date of the document issued in DD-Month-YYYY format?	VCS Std. Version 3.4	DR	All provided correctly.	OK	OK
2.4. Individual or entity that prepared the document?	VCS Std. Version 3.4	DR	All provided correctly.	OK	OK
2.5. Physical address, telephone, email, website?	VCS Std. Version 3.4	DR	All provided correctly.	OK	OK
3. Is this box available on the title page of the final document?	VCS Std. Version 3.4	DR	Yes	OK	OK
4. Is the PD used as a basis for validation prepared in accordance with the latest template and guidance from the VCS?	VCS Std. Version 3.4	DR	Yes, version 3.	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
5. Are the VCS PD and other documents required under the VCS Program in English?	VCS Std. Version 3.4	DR	Yes	OK	OK
6. Is there "Table of Contents" in the PD?	VCS Std. Version 3.4	DR	Yes	OK	OK
7. Is the project listed on VCS project pipeline?	Registration and Issuance Process Procedure Version 3.5 Section 3	DR	No.	OK	OK
1. PROJECT DETAILS					
1.1. Summary Description of the Project					
1.1.1. Does section 1.1 of the VCS PD include the following?	VCS Std. Version 3.4	DR		OK	OK
1.1.1.1. A summary description of the technologies/measures to be implemented by the project.	VCS Std. Version 3.4	DR	The plant has been projected to comprise Tepekisla Dam, cofferdam of upstream and downstream, penstock, a headpond, a spillway and a powerhouse, having 2 Francis turbines of horizontal axis with 34.48 MW power each and a one Francis turbines of horizontal axis with 4.33 MW power. License and FSR indicate different numbers for capacity of turbines. Please put PD in line with them and also indicate unit as MWm or MWe. Please state correctly turbine types (Kaplan or francis)	CAR1	OK
1.1.1.2. The location of the project.	VCS Std.	DR	Clearly shown. Erbaa county of the city of Tokat, in Turkey.	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	Version 3.4				
1.1.1.3. An explanation of how the project is expected to generate GHG emission reductions or removals.	VCS Std. Version 3.4	DR	Since the Project activity is intended to generate clean electrical energy through sustainable means in a system already overwhelmed by thermal power production plants, it may well be asserted that the project activity shall contribute to the climate change mitigation efforts by displacing an equivalent amount of carbon-intensive grid electricity and reducing the dependency on fossil fuels.	OK	OK
1.1.1.4. A brief description of the scenario existing prior to the implementation of the project.	VCS Std. Version 3.4	DR	In the baseline scenario, the electricity delivered to the grid by the project would have otherwise been generated by the operation of grid-connected power plants. Since Turkey's grid mainly consists of thermal power plants, this would have resulted in GHG emissions.	OK	OK
1.1.1.5. An estimate of annual average and total GHG emission reductions and removals.	VCS Std. Version 3.4	DR	Numbers are correctly stated.	OK	OK
1.1.2. Is the purpose of the project activity with a concise description included in the VCS PD?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §65 VCS Version 3.4	DR	The Project activity is intended to generate clean electrical energy through sustainable means.	OK	OK
1.1.3. Has the VCS PD been prepared in accordance with the latest guidelines for completing the VCS PD?	EB79 Report Annex 4 §63 VCS Std. Version 3.4	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
1.2. Sectoral Scope and Project Type					
1.2.1. Is this a grouped project?	VCS Std. Version 3.4	DR	No	OK	OK
1.2.2. Is the technical area of the project activity specified?	VCS Std. Version 3.4	DR	Sectoral Scope Number: 1 <i>Sectoral Scope: Energy Industries - Renewable Energy</i>	OK	OK
1.2.3. Is the category of the project activity specified?	CDM-PDD-FORM version 5.0 VCS Version 3.4	DR	Refer above	OK	OK
1.2.4. Is it justified how the proposed project activity conforms to the project category selected?	CDM-PDD-FORM version 5.0 VCS Std. Version 3.4	DR	Yes.	OK	OK
1.2.5. If no suitable category(ies) of project activities can be identified, is a new category(ies) descriptor and its definition suggested?	CDM-PDD-FORM version 5.0 VCS Std. Version 3.4	DR	N/A	OK	OK
1.3. Project Proponent					
1.3.1. Are the contact information for the project proponent(s) provided?	VCS Std. Version 3.4	DR	Provided.	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
1.4. Other Entities Involved in The Project					
1.4.1. Are the contact information and roles/responsibilities for any other entities involved in the development of the project provided?	VCS Std. Version 3.4	DR	There are no other entities involved in the project.	OK	OK
1.5. Project Start Date					
1.5.1. Is the project start date (the date on which the project began reducing or removing GHG emissions) indicated in day, month and year format?	VCS Version 3.4	DR	The construction was started on 4 June, 2013 and the project start date is 31 March, 2015. (Date on which the project is expected to commence electricity production).	OK	OK
1.5.2. Is the starting date defined in accordance with the relevant guidance?	CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK
1.5.3. Does the VCS PD include a description on the following?	CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK
1.5.3.1. how this starting date has been determined?	CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK
1.5.3.2. the evidence available to support this start date?	CDM-PDD-FORM version 5.0	DR	Please provide construction contract and site delivery protocol showing the date of construction start.	CL1	OK
1.6. Project Crediting Period					

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
1.6.1. Is the total crediting period including the day, month and year for the start and end dates and the total number of years indicated?	VCS Std. Version 3.4	DR	Yes.	OK	OK
AM0058					
1.6.2. Is the type of crediting period indicated as fixed crediting period in the PD?	AM0058 Version 3.1	DR	N/A	OK	OK
1.7. Project Scale and Estimated GHG Emission Reductions or Removals					
1.7.1. Is the scale of the project (project or mega project) indicated?	VCS Std. Version 3.4	DR	"Project"	OK	OK
1.7.2. Are the estimated annual GHG emission reductions or removals during the project crediting period indicated in a tabular format?	VCS Std. Version 3.4	DR	Yes.	OK	OK
1.8. Description of the Project Activity					
1.8.1. Does the proposed VCS project activity involve the alteration of an existing installation or process?	EB79 Report Annex 4 §69	DR	No, it is Greenfield.	OK	OK
1.8.2. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	EB79 Report Annex 4 §69	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
1.8.3. Does the VCS PD include the following?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
1.8.3.1. The scenario existing prior to the start of the project activity with a list of equipment and systems in operation at that time	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
1.8.3.2. The scope of activities/measures that are being implemented within the project activity, with a list of the equipment(s) and systems that will be installed and/or modified within the project activity;	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
1.8.3.3. The baseline scenario (if same as the scenario existing prior to implementation, then it should only be stated that both scenarios are the same)	CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK
1.8.4. Does the description of the scenarios include the following:	CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK
1.8.4.1. A list and arrangement of the main manufacturing / production technologies, systems and equipment involved	VCS Std. Version 3.4CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK
1.8.4.2. The emission sources and GHGs involved in the project activity, according to the methodology used	VCS Std. Version 3.4CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
1.8.4.3. The description of the functions of the equipment that is being modified and/or installed under the project activity and its relation, if any, to other manufacturing/production equipment and systems outside the project boundary	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
1.8.5. Is the lifetime of the project activity(s) indicated?	VCS Std. Version 3.4	DR	Yes.	OK	OK
1.8.6. Has the appropriate and clear evidence been provided regarding the expected operational lifetime of the project activity?	CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK
1.9. Project Location					
1.9.1. Is the location and geographical boundary of the project activity clearly identified including:	CDM-PDD-FORM version 5.0 VCS Std. Version 3.4	DR	Yes.	OK	OK
1.9.1.1. Host Party(ies)?	CDM-PDD-FORM version 5.0 VCS Std. Version 3.4	DR	Yes.	OK	OK
1.9.1.2. Region/State/Province etc.?	CDM-PDD-FORM version 5.0 VCS Std. Version 3.4	DR	Yes.	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
1.9.1.3. City/Town/Community etc.?	CDM-PDD-FORM version 5.0 VCS Std. Version 3.4	DR	Yes.	OK	OK
1.9.1.4. a set of geodetic coordinates.	VCS Std. Version 3.4	DR	Yes.	OK	OK
1.10. Conditions Prior to Project Initiation					
1.10.1. Are the conditions prior to project initiation provided?	VCS Std. Version 3.4	DR	As the project activity is a greenfield project, the conditions prior to the project initiation is the continuation of the current situation, i.e. the equivalent amount of energy would have been produced by other grid-connected units, which are mainly thermal power plants, undertaking business as usual maintenance. In addition, since the project is a Greenfield project, emissions that occur during construction and operation are negligible and non-existent respectively.	OK	OK
1.10.2. Is it demonstrated that the project has not been implemented to generate GHG emissions for the purpose of their subsequent reduction, removal or destruction?	VCS Std. Version 3.4	DR	Yes.	OK	OK
1.11. Compliance with Laws, Statutes And Other Regulatory Frameworks					
1.11.1. Does the VCS PD include identification of relevant local, regional and national laws, statutes and	VCS Std. Version 3.4	DR	Relevant laws are stated.	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
regulatory frameworks related to the project and demonstration of compliance with them?					
1.12. Ownership and Other Programs					
1.12.1. Right of Use					
1.12.1.1. Is the evidence of right of use provided in accordance with the VCS specifications on right of use?	VCS Std. Version 3.4	DR	The ownership of the emission reductions will belong to Ark Enerji Üretimi Sanayi Ve Ticaret Anonim Şirketi.	OK	OK
1.12.2. Emissions trading programs and other binding limits					
1.12.2.1. 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 Std. Version 3.4	DR	Net GHG emission reductions or removals generated by the project will not be used for compliance with an emissions trading program or for meeting binding limits on GHG emissions	OK	OK
1.12.2.2. If the project reduces GHG emissions from activities that are included in an emissions trading program; or takes place in a jurisdiction or sector in which binding limits are established on GHG emissions, have the PPs provided evidence on the following?	VCS Std. Version 3.4	DR	N/A	OK	OK
1.12.2.2.1. the reductions or removals generated by the	VCS Std. Version 3.4	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
project have or will not be used in the emissions trading program					
1.12.2.2.2. for the purpose of demonstrating compliance with the binding limits that are in place in that jurisdiction or sector	VCS Std. Version 3.4	DR	N/A	OK	OK
1.12.3. Other forms of environmental credit					
1.12.3.1. Have the project(s) created other forms of environmental credit (for example renewable energy certificates)?	VCS Std. Version 3.4	DR	The project has not created another form of Environmental Credit.	OK	OK
1.12.3.2. If the project(s) created other forms of environmental credit (for example renewable energy certificates), has the PPs provided all relevant information about the GHG-related environmental credit and the related program?	VCS Std. Version 3.4	DR	N/A	OK	OK
1.12.3.3. Have all other programs under which the project is eligible to participate (to create another form of GHG-related environmental credit) been listed?	VCS Std. Version 3.4	DR	N/A	OK	OK
1.12.4. Participation under other GHG					

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
programs					
1.12.4.1. Have the project(s) indicate whether the project has been registered, or is seeking registration under any other GHG programs?	VCS Std. Version 3.4	DR	The Project has not been registered or seeking registration under other GHG programs.	OK	OK
1.12.4.2. If the project has been registered, or is seeking registration under any other GHG programs, have the PPs provided the registration number and details?	VCS Std. Version 3.4	DR	N/A	OK	OK
1.12.5. Projects rejected by other GHG programs					
1.12.5.1. Has it been indicated whether the proposed project is rejected by other GHG programs?	VCS Std. Version 3.4	DR	The Project has not been rejected by other GHG programs.	OK	OK
1.12.5.2. If the proposed project rejected by other GHG programs, has the PPs provided the relevant information including the reason(s) for the rejection and justification of eligibility under the VCS Program?	VCS Std. Version 3.4	DR	N/A	OK	OK
1.13. Additional Information Relevant to The Project					
1.13.1. Eligibility Criteria: Are the eligibility	VCS Std.	DR	Project is not grouped.	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
criteria for inclusion of new instances of each project activity identified for grouped projects?	Version 3.4				
1.13.2. Do grouped projects have one or more clearly defined geographic areas within which project activity instances may be developed?	VCS Std. Version 3.4	DR	N/A	OK	OK
1.13.3. Do projects include multiple project activities where the methodology applied to the project allows more than one project activity and/or where projects apply more than one methodology?	VCS Std. Version 3.4	DR	N/A	OK	OK
1.13.4. If projects include multiple project activities where the methodology applied to the project allows more than one project activity and/or where projects apply more than one methodology, is the project in line with section 3.2.of the VCS Standard?	VCS Std. Version 3.4	DR	N/A	OK	OK
1.13.5. Is there a capacity limit that applies to a project activity included in the project and is the related information in line with section 3.4.8 of the VCS Standard?	VCS Std. Version 3.4	DR	N/A	OK	OK
1.13.6. Leakage Management: Is a description of the leakage management plan and implementation of leakage and risk mitigation measures provided? (if applicable)	VCS Std. Version 3.4	DR	As suggested in ACM0002/Version 15.0.0, the leakage emissions are not calculated and assumed to be "0". Please refer to Section 3.3.	OK	OK
1.13.7. Commercially Sensitive Information: Is it indicated whether any commercially sensitive information	VCS Std. Version 3.4	DR	There is no information that needs to be excluded from the public version of the VCS PD which will be displayed on the VCS Project Database	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
has been excluded from the public version of the project description and briefly description of the items to which such information pertains provided?					
1.13.8. Further Information: Is any additional relevant legislative, technical, economic, sectoral, social, environmental, geographic, site-specific and/or temporal information that may have a bearing on the eligibility of the project, the net GHG emission reductions or removals, or the quantification of the project's net GHG emission reductions or removals provided?	VCS Std. Version 3.4	DR	Yes	OK	OK
2. APPLICATION of METHODOLOGY					
2.1. Title and Reference of Methodology					
2.1.1. Does the project apply the correct and valid version of the approved methodology and referred tools at the time of submission for registration?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §71 VCS Std. Version 3.4	DR	ACM0002 v 15 is correct.	OK	OK
2.1.2. Does the VCS PD indicate the title and version of the methodology and the related tool(s) correctly?	CDM-PDD-FORM version 5.0	DR	ACM0002 v 15 and tools are correct.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	VCS Std. Version 3.4				
2.2. Applicability of Methodology					
2.2.1. Is the choice of the methodology justified by showing that the proposed project activity meets all the applicability conditions of the methodology?	CDM-PDD-FORM version 5.0 VCS Std. Version 3.4	DR	Applicability is correctly discussed.	OK	OK
2.2.2. Does the project activity meet each of the applicability conditions of any tool or other methodology component referred to therein?	EB79 Report Annex 4 §78	DR	Yes	OK	OK
2.2.3. Is there an explanation about the documentation that has been used?	CDM-PDD-FORM version 5.0	DR	Yes	OK	OK
2.2.4. Is the selected baseline and monitoring methodology applicable to the project activity and that the selected version is valid at the time of submission of the proposed project activity for registration?	EB79 Report Annex 4 §74	DR	Applicable.	OK	OK
ACM 0002					
2.2.5. Is the type of proposed project activity defined?	ACM 0002 Version 15.0	DR	Hydro	OK	OK
2.2.6. If the proposed project activity is a hydro power plant project, does one of the following conditions conform to the	ACM 0002 Version 15.0	DR		OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
proposed project activity?					
2.2.6.1. Is the proposed project activity implemented in an existing single or multiple reservoirs, with no change in the volume of any of the reservoirs?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.2.6.2. Is the project activity implemented in an existing single or multiple reservoirs, where the volume of the reservoir(s) is increased and the power density calculated using equation (3), is greater than 4 W/m ² ?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.2.6.3. Is the project activity results in new single or multiple reservoirs and the power density calculated using equation (3), is greater than 4 W/m ² ?	ACM 0002 Version 15.0	DR	Yes, calculated as 29.04 W/m ²	OK	OK
2.2.7. If the project activity is an integrated hydro power project, has the PPs demonstrated that water flow from upstream power plants/units spill directly to the downstream reservoir and that collectively constitute to the generation capacity of the integrated hydro power project?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.2.8. If the project activity is an integrated hydro power project, has the PPs provided an analysis of the water balance covering the water fed to power units, with all possible combinations of reservoirs and without the construction of reservoirs?	ACM 0002 Version 15.0	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.2.9. If the project activity is an integrated hydro power project involving multiple reservoirs, where the power density for any of the reservoirs calculated using equation (3) is lower than or equal to 4 W/m ² , do all the following conditions conform the project activity?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.2.9.1. The power density calculated using the total installed capacity of the integrated project, as per equation (4), is greater than 4 W/m ² ;	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.2.9.2. Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity;	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.2.9.3. Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m ² shall be:	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.2.9.3.1. Lower than or equal to 15 MW; and	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.2.9.3.2. Less than 10 per cent of the total installed capacity of integrated hydro power project.	ACM 0002 Version 15.0	DR	N/A	OK	OK
AMS I.C.					

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.2.10. Does the proposed project activity comprise renewable energy technologies that supply users (residential, industrial or commercial facilities) with thermal energy that displaces fossil fuel use?	AMS I.C. Version 20 §2	DR	N/A	OK	OK
2.2.11. Is the proposed project activity a biomass based co-generation or trigeneration system?	AMS I.C. Version 20 §3 §22-a §22-b	DR	N/A	OK	OK
2.2.12. If the proposed project activity is a biomass based co-generation system, does the proposed project activity produce heat and power in separate element processes?	AMS I.C. Version 20 §22-a	DR	N/A	OK	OK
2.2.13. If the proposed project activity is a biomass based trigeneration system, does the proposed project activity produce electrical energy and thermal energy in separate element processes?	AMS I.C. Version 20 §22-b §22-d	DR	N/A	OK	OK
2.2.14. If the proposed project activity is a biomass based co-generation system, does the emission reductions accrue from one of the following activities?	AMS I.C. Version 20 §4	DR	N/A	OK	OK
2.2.14.1. Electricity supply to a grid	AMS I.C. Version 20 §4-a	DR	N/A	OK	OK
2.2.14.2. Electricity and/or thermal energy (steam or heat)	AMS I.C. Version 20	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
production for on-site consumption or for consumption by other facilities,	§4-b				
2.2.14.3. Combination of both	AMS I.C. Version 20 §4-c	DR	N/A	OK	OK
2.2.15. If the proposed project activity is a biomass based co-generation or trigeneration system, is the total capacity of the project activity remain under the below stated limits?	AMS I.C. Version 20 §9	DR	N/A	OK	OK
2.2.15.1. 45 MW thermal if the project activity includes emission reductions from both the thermal and electrical energy components	AMS I.C. Version 20 §9-a	DR	N/A	OK	OK
2.2.15.2. 45 MW thermal if the emission reductions are solely on account of thermal energy production (i.e. no emission reductions accrue from the electricity component)	AMS I.C. Version 20 §9-b	DR	N/A	OK	OK
2.2.15.3. 15 MW if the emission reductions are solely on account of electrical energy production (i.e. no emission reductions accrue from the thermal energy component),	AMS I.C. Version 20 §9-c	DR	N/A	OK	OK
2.2.16. Is the total installed/rated thermal energy generation capacity of the project equipment equal to or less than 45 MW thermal?	AMS I.C. Version 20 §7	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.2.17. Is the project activity a co-fired system?	AMS I.C. Version 20 §8 §22-e	DR	N/A	OK	OK
2.2.18. If the proposed project activity is a co-fired system, does the total installed thermal energy generation capacity of the project equipment, when using both fossil and renewable fuel, exceed 45 MW thermal?	AMS I.C. Version 20 §8	DR	N/A	OK	OK
2.2.19. Does the project activity involve the addition of renewable energy units at an existing renewable energy facility?	AMS I.C. Version 20 §10	DR	N/A	OK	OK
2.2.20. If the project activity involve the addition of renewable energy units at an existing renewable energy facility, does the total capacity of the units added remain under the limits (45 MW thermal or 15 MWelectrical) and are the units added physically distinct from the existing units?	AMS I.C. Version 20 §10	DR	N/A	OK	OK
2.2.21. Does the project activity use solid biomass fuel (e.g. briquette)?	AMS I.C. Version 20 §11 §17	DR	N/A	OK	OK
2.2.22. If the project activity uses solid biomass fuel, is it demonstrated that it has been produced using solely renewable biomass?	AMS I.C. Version 20 §11	DR	N/A	OK	OK
2.2.23. If the producer of the solid biomass fuel is not a project participant, are the project participant and the producer	AMS I.C. Version 20 §12	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
bound by a contract that shall enable the project participant to monitor the source of the renewable biomass to account for any emissions associated with solid biomass fuel production?					
2.2.24. Is the electricity and/or steam/heat produced by the project activity delivered to a third party?	AMS I.C. Version 20 §13	DR	N/A	OK	OK
2.2.25. If the electricity and/or steam/heat produced by the project activity is delivered to a third party, is there a contract between the supplier and consumer(s) of the energy will have to that ensures there is no double-counting of emission reductions?	AMS I.C. Version 20 §13	DR	N/A	OK	OK
2.2.26. Does the project activity recover and utilize biogas for power/heat production?	AMS I.C. Version 20 §14	DR	N/A	OK	OK
2.2.27. If the project activity recovers and utilizes biogas for power/heat production, does it apply this methodology on a stand alone basis?	AMS I.C. Version 20 §14	DR	N/A	OK	OK
2.2.28. If the project activity recovers and utilizes biogas for power/heat production and applies this methodology on a stand alone basis, has the PPs taken into account any incremental emissions occurring due to the implementation of the project activity, as project or leakage emissions?	AMS I.C. Version 20 §14	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.2.29. Does the project equipment contain refrigerant?	AMS I.C. Version 20 §15	DR	N/A	OK	OK
A.1.1.1. If project equipment contains refrigerants, is the refrigerant used in the project case any ozone depleting potential?	AMS I.C. Version 20 §15	DR	N/A	OK	OK
2.2.30. Is the proposed project activity a charcoal based biomass energy generation?	AMS I.C. Version 20 §15	DR	N/A	OK	OK
2.2.31. If the proposed project activity is a charcoal based biomass energy generation, is the charcoal produced from renewable biomass sources?	AMS I.C. Version 20 §15	DR	N/A	OK	OK
2.2.32. If the proposed project activity is a charcoal based biomass energy generation, is the charcoal produced in kilns equipped with methane recovery and destruction facility?	AMS I.C. Version 20 §15-a	DR	N/A	OK	OK
2.2.33. If charcoal is produced in kilns not equipped with a methane recovery and destruction facility, has the PPs considered the methane emissions from the production of charcoal?	AMS I.C. Version 20 §15-b	DR	N/A	OK	OK
AMS-I.D.					
2.2.34. Does the proposed project activity comprises renewable energy units such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass, supplying one of the following?	AMS I.D. Version 17.0 §1 §3 §4 §6	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
•					
2.2.34.1. Electricity to a national or a regional grid, or	AMS I.D. Version 17.0 §1 §3 §4 §6	DR	N/A	OK	OK
2.2.34.2. Electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling?	AMS I.D. Version 17.0 §1 §3 §4 §6	DR	N/A	OK	OK
2.2.35. Does the new unit (proposed project activity) have both renewable and non-renewable components?	AMS I.D. Version 17.0 §5	DR	N/A	OK	OK
2.2.36. Does the new unit co-fires fossil fuel?	AMS I.D. Version 17.0 §5	DR	N/A	OK	OK
2.2.37. Does the proposed project activity involve the addition of renewable energy generation units at an existing renewable power generation facility?	AMS I.D. Version 17.0 §7	DR	N/A	OK	OK
2.2.38. Is the project activity a retrofit or a replacement?	AMS I.D. Version 17.0 §8	DR	N/A	OK	OK
2.2.39. If the proposed project activity is a hydro power plant project, does one of	AMS I.D. Version	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
the following conditions conform to the proposed project activity?	17.0 §4				
2.2.39.1. Is the proposed project activity implemented in an existing reservoir, with no change in the volume of reservoir?	AMS I.D. Version 17.0 §4	DR	N/A	OK	OK
2.2.39.2. Is the project activity implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per the definitions given in the project emissions section, is greater than 4 W/m ² ?	AMS I.D. Version 17.0 §4	DR	N/A	OK	OK
2.2.39.3. Is the project activity results in new reservoirs and the power density of the power plant, as per the definitions given in the project emissions section, is greater than 4 W/m ² ?	AMS I.D. Version 17.0 §4	DR	N/A	OK	OK
AM0058					
2.2.40. Is this a project activity that introduce a new primary district heating system to supply heat to residential and commercial consumers?	AM0058 Version 3.1	DR	N/A	OK	OK
2.2.41. If this is a project activity that introduce a new primary district heating system to supply heat to residential and commercial consumers, does the heat come from one of the following?	AM0058 Version 3.1	DR	N/A	OK	OK
2.2.41.1. Predominantly from an existing grid connected power plant with no heat extraction,	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
other than the required for the operation of the power plant auxiliary systems, prior to the project activity. The project may also involve introduction of new modern heat only boilers to supplement heat from the existing power plant; or					
2.2.41.2. From heat only boiler(s), in which case the project boundary includes only existing buildings.	AM0058 Version 3.1	DR	N/A	OK	OK
2.2.42. Does the project activity include any of below components?	AM0058 Version 3.1	DR	N/A	OK	OK
2.2.42.1. Emission reductions resulting from the supply of hot tap water through the district heating system;	AM0058 Version 3.1	DR	N/A	OK	OK
2.2.42.2. Emission reductions resulting from the inclusion in the district heating system those areas, where in the baseline scenario heating was provided on an individual basis, e.g. by coal-fired stoves, electric appliances or boilers in individual apartments;	AM0058 Version 3.1	DR	N/A	OK	OK
2.2.42.3. Emission reductions resulting from heat supply to new residential areas, in cases where more than 50% of the annual heat production originates from heat-only boilers and less than	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
50% of heat comes from the power plant within the primary district heating system;					
2.2.42.4. Emission reductions resulting from a decrease in heat losses due to the water losses or from demand-side measures (e.g. insulation of buildings, use of thermostatic valves, behavioural changes due to billing practices).	AM0058 Version 3.1	DR	N/A	OK	OK
		DR	N/A	OK	OK
2.3. Project Boundary					
2.3.1. Have all sources and GHGs necessary for the calculation of emissions been included within the project boundary?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §84	DR	Boundary and sources are correctly stated.	OK	OK
2.3.2. Is the diagram or map of the project boundary, showing clearly the physical locations of the various installations or management activities taking place as part of the project activity given?	VCS Std. Version 3.4	DR	Yes.	OK	OK
2.3.3. Are the emission sources and gases that are included in the project boundary described using the recommended tabular format?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §84	DR	Yes.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.3.4. Are there any relevant sources or gases which haven't included into the calculations?	EB79 Report Annex 4 §84	DR	No.	OK	OK
2.3.5. Has such exclusion been properly justified in the VCS PD?	EB79 Report Annex 4 §89	DR	N/A	OK	OK
2.3.6. Does the VCS PD correctly describe the project boundary and the physical delineation of the proposed CDM project activity?	EB79 Report Annex 4 §84	DR	Yes.	OK	OK
2.3.7. In cases where the methodology allows PPs to choose whether a source or gas is to be included in the project boundary, is this choice explained and justified where necessary?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §86	DR	Yes.	OK	OK
2.3.8. Is the project boundary presented in a flow diagram, physically delineating the project activity based on the descriptions in the VCS PD?	CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK
2.3.9. Are all the equipment, systems and flows of mass and energy described in the flow diagram based on the descriptions in the VCS PD?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	Yes.	OK	OK
2.3.10. Are the emissions sources and gases included in the project boundary and the monitoring variables represented in the diagram?	VCS Std. Version 3.4 CDM-PDD-FORM	DR	Yes.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	version 5.0				
ACM 0002					
2.3.11. Is the spatial extent of the project boundary identified correctly?	ACM 0002 Version 15.0	DR	Yes.	OK	OK
2.3.12. Are the greenhouse gases and emission sources included in or excluded from the project boundary given in the tabular form as per the guidance given in Table-2 of ACM 0002?	ACM 0002 Version 15.0	DR	Yes.	OK	OK
AMS I.C.					
2.3.13. Does the spatial extent of the project boundary encompass the following?	AMS I.C. Version 20 §23	DR	N/A	OK	OK
2.3.13.1. All plants generating electricity and/or thermal energy located at the project site, whether fired with biomass, fossil fuels or a combination of both	AMS I.C. Version 20 §23-a	DR	N/A	OK	OK
2.3.13.2. All power plants connected physically to the electricity system (grid) that the project plant is connected to	AMS I.C. Version 20 §23-b	DR	N/A	OK	OK
2.3.13.3. Industrial, commercial or residential facility, or facilities, consuming energy generated by the system and the processes or equipment affected by the project activity	AMS I.C. Version 20 §23-c	DR	N/A	OK	OK
2.3.13.4. The processing plant of	AMS I.C.	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
biomass residues, for project activities using solid biomass fuel (e.g. briquette), unless all associated emissions are accounted for as leakage emissions or are part of an independently registered CDM project;;	Version 20 §23-d				
2.3.13.5. The transportation itineraries, if the biomass is transported over distances greater than 200 kilometres, unless all associated emissions are accounted for as leakage emissions;	AMS I.C. Version 20 §23-e	DR	N/A	OK	OK
2.3.13.6. The site of the anaerobic digester in the case of project activity that recovers and utilizes biogas for producing electricity and/or thermal energy and applies this methodology on a stand-alone basis, i.e. without using a Type III component of a SSC methodology.	AMS I.C. Version 20 §23-f	DR	N/A	OK	OK
AMS I.D.					
2.3.14. Is the spatial extent of the project boundary identified correctly?	AMS I.D. Version 17.0 §9	DR	N/A	OK	OK
AM0058					
2.3.15. Is the geographical extent of the project boundary clearly established in	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
terms of following?					
2.3.15.1. Location of existing and new buildings connected to the district heating system;	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.15.2. Identification of boilers, sub-stations and connected isolated heating networks;	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.15.3. Location and interconnections of heat extraction units at the power plant for feeding the project primary district heating system;	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.16. Is the power plant which supplies heat to the district heating network, in operation for at least 3 years prior to the project activity?	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.17. Does the power plant operate in accordance with the following conditions?	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.17.1. The heat is supplied by a grid-connected fossil fuel fired power plant;	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.17.2. Only one type of fuel is used	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.17.3. The same type of fossil fuel is fired in the power plant in the baseline and project scenarios;	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.17.4. The project activity does not lead to the increase in the technical lifetime of the power plant and does not result in any major integrated production changes at the power plant.	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.3.18. Do all fossil fuel fired heat-only boiler(s) operate according to the following conditions?	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.18.1. The heat supplied to the district heating system is only used for heating of buildings and/or hot tap water supply in the residential and/or commercial sector, but not for industrial production processes;	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.18.2. Only one type of fuel is used in each of the boilers included in the project boundary.	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.19. Does the physical delineation of the project boundary include the following?	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.19.1. The site of the power plant, including the heat extraction unit(s) and all interrelated production units to account for emissions resulting from changes in power generation and consumption due to the project activity;	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.19.2. The heat-only boilers that supply heat to the district heating system (e.g. such as peak load boilers);	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.19.3. The district heating system, including pipes, sub-stations and buildings that are or will be connected to the district heating system.	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.3.20. Are the points to measure heat supplied to buildings (Qj,i) located as well as heat supply to the primary network by the existing power plant and heat only boilers in line with the Figure-1 of the latest applicable version of the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
2.3.21. Are the emissions sources included in or excluded from the project boundary indicated in the PD in line with the Table-1 of the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
2.4. Baseline Scenario					
2.4.1. Does the approved methodology that is selected by the proposed VCS project activity prescribe the baseline scenario and hence no further analysis is required?	EB79 Report Annex 4 §122	DR	Yes, methodology states the baseline scenario.	OK	OK
2.4.2. Does the VCS PD identify the baseline for the proposed VCS 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 VCS project activity?	EB79 Report Annex 4 §90 §94 CDM-PDD-FORM version 5.0	DR	Yes	OK	OK
2.4.3. If the methodology requires use of the tools to identify the baseline scenario, have all those been applied?	EB79 Report Annex 4 §92	DR	N/A	OK	OK
2.4.4. Does the methodology require several	EB79	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	Report Annex 4 §93				
2.4.5. If the methodology requires several alternative scenarios, are all credible scenarios that are in the VCS PD and are supplementary to those required by the methodology reasonable in the context of the proposed VCS project activity?	EB79 Report Annex 4 §93 §121	DR	N/A	OK	OK
2.4.6. If the proposed project activity includes several different facilities, technologies, outputs or services, do the alternative scenarios for each of them be identified separately?	EB70 Report Annex 8	DR	N/A	OK	OK
2.4.7. If the alternative scenarios for each of them be identified separately, are the realistic combinations of these being considered as possible alternative scenarios to the proposed project activity?	EB70 Report Annex 8	DR	N/A	OK	OK
2.4.8. Has any reasonable alternative scenario been excluded?	EB79 Report Annex 4 §93	DR	N/A	OK	OK
2.4.9. If any reasonable alternative scenario been excluded, has it been justified why these alternatives are excluded?	EB79 Report Annex 4 §93 EB70 Report Annex 8	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.4.10. Are there relevant national and/or sectoral policies to identify the baseline scenario?	EB79 Report Annex 4 §96	DR	N/A	OK	OK
2.4.11. If there are relevant national and/or sectoral policies to identify the baseline scenario, have those been considered correctly in the VCS PD?	EB79 Report Annex 4 §93	DR	N/A	OK	OK
2.4.12. Are there relevant circumstances to identify the baseline scenario?	EB79 Report Annex 4 §96	DR	N/A	OK	OK
2.4.13. If there relevant circumstances to identify the baseline scenario, have those been considered correctly in the VCS PD?	EB79 Report Annex 4 §96	DR	N/A	OK	OK
2.4.14. Is the identified baseline scenario reasonably supported by correct and verifiable assumptions, calculations and rationales?	EB79 Report Annex 4 §94 CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
ACM 0002					
2.4.15. If the project activity involves the installation of a greenfield power plant, is the baseline scenario identified appropriately in accordance with the ACM 0002?	ACM 0002 Version 15.0	DR	Yes	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.4.16. If the project activity involves capacity addition to existing grid-connected renewable power plant/unit, is the baseline scenario identified appropriately in accordance with the ACM0002?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.4.17. If the proposed project activity is a capacity addition, retrofit, rehabilitation or replacement, have the existing plant/unit started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion, retrofit or rehabilitation of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.4.18. If the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit, is the point of time at which the generation facility would likely be replaced or retrofitted ($DATE_{Baseline\ Retrofit}$) defined?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.4.19. If the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit, is the baseline scenario identified following the step-wise procedure in accordance with the ACM0002?	ACM 0002 Version 15.0	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.4.20. 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”?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.4.21. Is “the proposed project activity undertaken without being registered as a CDM project activity” listed as one of the alternatives?	EB70 Report Annex 8 EB79 Report Annex 4 §121-a ACM 0002 Version 15.0	DR	N/A	OK	OK
2.4.22. Has “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” been listed as an alternative?	EB70 Report Annex 8 EB79 Report Annex 4 §121-b ACM 0002 Version 15.0	DR	N/A	OK	OK
2.4.23. Has “continuation of the current situation (no project activity or other alternatives undertaken” been listed as an alternative?	EB70 Report Annex 8 EB79 Report Annex 4 §114b	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	ACM 0002 Version 15.0				
2.4.24. If the barrier analysis is used, is the Step 2 of the latest applicable version of “Combined tool to identify the baseline scenario and demonstrate additionality” applied appropriately?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.4.25. If more than one alternative is remaining after Step 2 and if the remaining alternatives include scenarios P1 and P3, is the Investment Comparison as per step 3 of the “Combined tool to identify the baseline scenario and demonstrate additionality” applied appropriately?	ACM 0002 Version 15.0	DR	N/A	OK	OK
2.4.26. If more than one alternative is remaining after Step 2 and if the remaining alternatives include scenarios P1 and P2, is the Benchmark Analysis as per step 2b of the “Tool for the demonstration and assessment of additionality” applied appropriately?	ACM 0002 Version 15.0	DR	N/A	OK	OK
AMS I.C.					
2.4.27. If the project activity is a renewable energy technology that displaces technologies using fossil fuels, is the baseline scenario identified appropriately in accordance with AMS I.C.?	AMS I.C. Version 20 §24	DR	N/A	OK	OK
2.4.28. If the project activity is implemented	AMS I.C.	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
on existing facilities, are the baseline calculations based on operational data on energy use (e.g. electricity, fossil fuel) and plant output (e.g. steam/chilling/electricity thermal and/or electrical energy) using one of the following?	Version 20 §25 §26				
2.4.28.1. Most recent three years operational data immediately prior to the start date of the project activity in case of existing facilities which has more than three years of operation history;	AMS I.C. Version 20 §25-a	DR	N/A	OK	OK
2.4.28.2. A minimum of most recent one year data in case of existing facilities which has more than three years of operation history but do not have three years operational data; or	AMS I.C. Version 20 §25-b	DR	N/A	OK	OK
2.4.28.3. A performance test/measurement campaign carried out prior to the implementation of the project activity in case of existing facilities which has more than three years of operation history but do not have operational data/information such as efficiency, energy consumption and output or the available data is not reliable due to various factors such as the use of imprecise or non-calibrated measuring equipment.	AMS I.C. Version 20 §25-c	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.4.29. If the project activity is implemented in existing facilities where the additionality is demonstrated based on a baseline scenario that is not the continuation of the current practice, has the PPs chosen the baseline emission factor as the lower of the following two choices?	AMS I.C. Version 20 §27	DR	N/A	OK	OK
2.4.29.1. The emission factor of the fossil fuel that would have been used in the absence of the project activity;	AMS I.C. Version 20 §27-a	DR	N/A	OK	OK
2.4.29.2. The emission factor of the fossil fuel that was used prior to the implementation of the project activity.	AMS I.C. Version 20 §27-b	DR	N/A	OK	OK
2.4.30. If the proposed project activity is producing both heat and thermal energy, is the baseline scenario determined as one of the following?	AMS I.C. Version 20 §28	DR	N/A	OK	OK
2.4.30.1. Electricity is imported from a grid and thermal energy (steam/heat) is produced using fossil fuel	AMS I.C. Version 20 §28-a	DR	N/A	OK	OK
2.4.30.2. Electricity is produced in an on-site captive power plant using fossil fuel (with a possibility of export to the grid) and thermal energy is produced using fossil fuel	AMS I.C. Version 20 §28-b	DR	N/A	OK	OK
2.4.30.3. A combination of 2.4.30.1 and 2.4.30.2	AMS I.C. Version 20	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	§28-c				
2.4.30.4. Electricity and thermal energy) are produced in a cogeneration or trigeneration unit using fossil fuel (with a possibility of export of electricity to a grid/other facilities and/or thermal energy to other facilities);	AMS I.C. Version 20 §28-d	DR	N/A	OK	OK
2.4.30.5. Electricity is imported from a grid and/or produced in an on-site captive power plant using fossil fuels (with a possibility of export to the grid); steam/heat is produced using biomass	AMS I.C. Version 20 §28-e	DR	N/A	OK	OK
2.4.30.6. Electricity is produced in an on-site captive power plant using biomass (with a possibility of export to a grid) and/or imported from a grid; thermal energy is produced using fossil fuel	AMS I.C. Version 20 §28-f	DR	N/A	OK	OK
2.4.30.7. Electricity and thermal energy are produced in a biomass fired cogeneration or trigeneration unit (without a possibility of export of electricity either to a grid or to other facilities and without a possibility of export of thermal energy to other facilities)	AMS I.C. Version 20 §28-g §29	DR	N/A	OK	OK
2.4.30.8. Electricity and/or thermal energy produced in a co-fired system	AMS I.C. Version 20 §28-h	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.4.30.9. Electricity is imported from a grid and/or produced in a biomass fired cogeneration or trigeneration unit (without a possibility of export of electricity either to the grid or to other facilities); thermal energy is produced in a biomass fired cogeneration or trigeneration unit and/or a biomass fired boiler (without a possibility of export of thermal energy to other facilities)	AMS I.C. Version 20 §28-i §30	DR	N/A	OK	OK
2.4.30.10. Electricity is imported from a grid and/or produced in an on-site captive power plant using fossil fuel and thermal energy is produced using electricity.	AMS I.C. Version 20 §28-j	DR	N/A	OK	OK
2.4.31. If the project activity seeks to retrofit or modify an existing facility for renewable energy generation, is the baseline scenario determined according to the methodology?	AMS I.C. Version 20 §57 §58	DR	N/A	OK	OK
AMS I.D.					
2.4.32. Is the baseline scenario identified as "the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid?"	AMS I.D. Version 17.0 §10	DR	N/A	OK	OK
2.4.33. If the project activity involves retrofits	AMS I.D.	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
or replacements of an existing facility, is baseline scenario identified appropriately in accordance with AMS I.D.?	Version 17.0 §14				
2.4.34. Have the PPs demonstrated the remaining lifetime of the equipment replaced according to the requirements described in the general guidelines to SSC CDM methodologies?	AMS I.D. Version 17.0 §17	DR	N/A	OK	OK
2.4.35. If the proposed project activity is a capacity addition with renewable energy units not covered in paragraph 15 of the methodology , for the project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, where the existing and new units share the use of common and limited renewable resources , have the PPs considered the potential for the project activity to reduce the amount of renewable resource available to, and thus electricity generation by, existing units in the determination of baseline emissions, project emissions, and/or leakage, as relevant.?	AMS I.D. Version 17.0 §18	DR	N/A	OK	OK
2.4.36. If the proposed project activity is a capacity addition with renewable energy units not covered in paragraph 15 of the methodology , is the baseline scenario determined as «the existing facility that would continue to supply	AMS I.D. Version 17.0 §18	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
electricity to the grid at historical levels, until the time at which the generation facility would likely be replaced or retrofitted (DATEBaseline Retrofit)»?					
(2.4.37. Have the PPs explained and documented the quantities and types of biomass and the biomass to fossil fuel ratio (in case of co-fired system) to be used during the crediting period in the PD?	AMS I.D. Version 17.0 §19	DR	N/A	OK	OK
AM0058					
2.4.38. Are the categories j for buildings included in the project boundary defined on the basis of the following common attributes?	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.38.1. Type of technology employed by the heating system(s), to which buildings in category j would be connected in the baseline scenario;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.38.2. Fuel type used by the heating system(s), to which buildings in category j would be connected in the baseline scenario;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.38.3. Type of buildings/sub-area (i.e. existing or new).	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39. Are following baseline scenario	AM0058	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
alternatives for heat supply to buildings or sub-areas with similar characteristics assessed?	Version 3.1				
2.4.39.1. Introduction of a new integrated district heating system(s) connected by a new primary network:	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.1.1. The proposed project activity undertaken without being registered as a GS project activity;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.1.2. The introduction of a new district heating system, but with a different configuration for heat generation;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.1.3. The replacement of the heat-only boilers in the existing network(s) by new heat-only boilers.	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.2. Continued operation or rehabilitation of an existing [isolated] district heating network(s) (both existing and new buildings can be connected to an existing network) or establishment of a new [isolated] district heating network(s) (for new buildings) covering all buildings within the project boundary without the introduction of a primary heating network. Such [isolated] district heating	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
network(s) employ the following technologies:					
2.4.39.2.1. Coal fired boilers in boiler houses, supplying several buildings through a small heat distribution network;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.2.2. Natural gas fired boilers in boiler houses, supplying several buildings through a small heat distribution network;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.2.3. Oil fired boilers in boiler houses, supplying several buildings through a small heat distribution network;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.2.4. Small decentralized cogeneration plants;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.2.5. Renewable energy sources, such as biomass or solar thermal collectors, connected to a small heat distribution network.	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.3. Continued use or introduction of building isolated heating networks using:	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.3.1. Coal fired boilers for individual buildings;	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.4.39.3.2. Natural gas fired boilers for individual buildings;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.3.3. Oil fired boilers for individual buildings.	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.4. Continued use or introduction of individual heat supply solutions:	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.4.1. Coal fired stoves for individual apartments;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.4.2. Natural gas fired stoves for individual apartments;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.4.3. Oil fired stoves for individual apartments;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.4.4. Electricity (e.g. off-peak storage heating);	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.4.5. Individual heating devises using renewable energy sources, e.g. solar thermal collectors;	AM0058 Version 3.1	DR	N/A	OK	OK
2.4.39.4.6. Individual heating devises using non-renewable biomass.	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5. Additionality					
2.5.1. Has it been clearly stated in the VCS PD which analysis method(s) has been chosen for additionality assessment?	Kyoto Protocol Art. 12.5c, Marrakesh Accords, CDM Modalities and Procedures §43 EB70 Report Annex 8 EB79 Report Annex 4 §107	DR	The project's additionality has been demonstrated using the latest version of the "Tool for the demonstration and assessment of additionality"- Version 07.0.0.	OK	OK
Prior consideration of CDM					
2.5.2. Has it clearly demonstrated and supported by the documented evidence that the project start date is the earliest date at which either the implementation or construction or real action of a project activity begins?	EB79 Report Annex 4 §112	DR	Project is going to be completed in 2 years after the project start date.	OK	OK
2.5.3. Is there documented evidence provided by the project participants on how and when the decision to proceed with the project activity was taken?	CDM-PDD-FORM version 5.0	DR	Yes	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.4. Does the VCS PD provide an implementation timeline of the proposed VCS project activity supported by the documented evidence?	CDM-PDD-FORM version 5.0	DR	Yes	OK	OK
2.5.5. If the project was not published and the starting date is on or after 2nd August 2008, have there been list of prior consideration notifications from the UNFCCC website and communication between the project proponent, the Secretariat and the host Party DNA regarding the commencement of a new project activity?	EB79 Report Annex 4 §113	DR	N/A	OK	OK
2.5.6. For the project activities with a starting date before 2nd August 2008 and before the actual publication of VCS PD, was there enough evidence presented to prove that PPs were previously aware of CDM?	EB79 Report Annex 4 §114	DR	N/A	OK	OK
2.5.7. If PPs were previously aware of CDM, did PPs have an awareness of the VCS prior to the project activity start date, and that the benefits of the VCS were a decisive factor in the decision to proceed with the project?	EB79 Report Annex 4 §114-a	DR	N/A	OK	OK
2.5.8. If the benefits of the VCS were a decisive factor in the decision to proceed with the project, was there enough evidence presented to prove	EB79 Report Annex 4 §114-b	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
that PPs were taking continuing and real actions to secure VCS status for the project in parallel with its implementation?					
2.5.9. In case of significant gap in the project development history, can a clear conclusion on prior VCS consideration be made?	EB79 Report Annex 4 §116	DR	N/A	OK	OK
Sub-Step 1a: Definition of alternatives	EB70 Report Annex 8				
Sub-Step 1b: Consistency with mandatory laws and regulations	EB70 Report Annex 8				
2.5.10. Has the analysis of compliance of the defined alternatives with the mandatory laws and regulations carried out appropriately?	EB70 Report Annex 8 EB79 Report Annex 4 §121-c	DR	The alternatives discussed in PD are in line with applicable legal and regulatory requirements.	OK	OK
Step 2: Investment analysis	EB70 Report Annex 8				
2.5.11. Are the input values used in all investment analysis valid, consistent and applicable at the time of the investment decision taken by the PP?	EB62 Report Annex 5 EB79 Report Annex 4	DR	Yes	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	§124				
2.5.12. Are all the listed input values been consistently applied in all calculations?	EB62 Report Annex 5	DR	Yes	OK	OK
2.5.13. Do the PPs rely on values from Feasibility Study Report (FSR) that are approved by national authorities for proposed VCS project activities?	EB79 Report Annex 4 §127 §129	DR	Please provide a table for IRR inputs. Table should have columns of IRR input/value/reference document/document date. All costs and IRR inputs like interest rate etc. shall be reproducible by DOE.	CL2	OK
2.5.14. If PPs rely on FSR,					
2.5.14.1. Is it possible to conclude that in the period of time between the finalization of the FSR and the investment decision input values would not have materially changed?	EB79 Report Annex 4 §129-a	DR	FSR is applicable.	OK	OK
2.5.14.2. Are the values used in the VCS PD and associated annexes fully consistent with the FSR?	EB79 Report Annex 4 §129-b	DR	Yes	OK	OK
2.5.15. Is the plant load factor defined ex-ante in the VCS PD appropriately?	EB48 Report Annex 11	DR	Yes	OK	OK
Sub-step 2a: Determine appropriate analysis method	EB70 Report Annex 8				
2.5.16. Has the VCS PD described the selection process of investment analysis method (simple cost, investment comparison and benchmark analysis) for the proposed project activity?	EB70 Report Annex 8	DR	Yes, the PD describes the benchmark analysis as the chosen methodology for analyzing the investment decision (page 21 of PDD).	OK	OK
2.5.17. Is the choice of the investment	EB70	DR	Yes, the benchmark analysis is the appropriate methodology	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
analysis method appropriate to the proposed project activity?	Report Annex 8 EB62 Report Annex 5		for the type of project described in the PDD. The other two methods (simple cost and investment comparison) are not appropriate since there are revenues to be earned and the project owner does not provide other investment alternatives as a basis for comparison.		
Sub-step 2b: Option I-Simple cost analysis	EB70 Report Annex 8				
2.5.18. Have all costs associated with the VCS project activity and the alternatives identified in Step 1 been documented?	EB70 Report Annex 8	DR	Not applicable.	OK	OK
2.5.19. Has it been demonstrated and supported by valid evidence that at least one of the alternatives defined in Step 1 is less costly than the proposed project activity?	EB70 Report Annex 8	DR	Not applicable.	OK	OK
Sub-step 2b: Option II-Apply investment comparison analysis	EB70 Report Annex 8				
2.5.20. Has the PPs identified a financial indicator (such as IRR, NPV, cost benefit ratio, or unit cost of service (e.g., levelized cost of electricity production in \$/kWh or levelized cost of delivered heat in \$/G)) which is most suitable for the project type and decision-making context regarding the investment comparison analysis?	EB70 Report Annex 8	DR	Not applicable.	OK	OK
Sub-step 2b: Option III. Apply benchmark analysis	EB70 Report Annex 8				
2.5.21. Has the PPs identified a financial	EB70	DR	Yes, the PPs have identified the Equity IRR as the basis for	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
indicator (such as IRR) which is most suitable for the project type and decision-making context including the alternatives for the benchmark analysis?	Report Annex 8 EB62 Report Annex 5 EB79 Report Annex 4 §128		their decision. This is an appropriate decision criterion from the point of view of the project owner (pages 21to 23 of PDD).		
2.5.22. Has a pre-tax benchmark been applied?	EB62 Report Annex 5	DR	No, the benchmark used is the cost of equity that is used for comparing the calculated equity IRR. By definition, cost of equity is an after-tax cost since the shareholders are entitled to receive their claims from the company on an after-tax basis.	OK	OK
2.5.23. If post tax benchmark is applied, has actual interest payable been taken into account in the calculation of income tax?	EB62 Report Annex 5	DR	Yes, the interest payable is taken into account in the calculation of income taxes.	OK	OK
If the project participant has applied investment comparison or benchmark analysis	EB70 Report Annex 8				
2.5.24. If the benchmark is based on parameters that are standard in the market, is the cost of equity determined appropriately? Guideline either by:	EB62 Report Annex 5	DR		OK	OK
2.5.24.1. selecting the values provided in Appendix A of Guidelines on the Assessment of Investment Analysis? or	EB62 Report Annex 5	DR		OK	OK
2.5.24.2. by calculating the cost of equity using best financial practices?	EB62 Report Annex 5	DR	The PPs describe on pages 22 and 23 of the PDD how they calculate the cost of equity benchmark. They are using the appropriate inputs based on best financial practices.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.25. If the benchmark based on parameters that are standard in the market, has the cost of debt been calculated as the cost of financing in the capital markets (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on documented evidence from financial institutions with regard to the cost of debt financing of comparable projects?	EB62 Report Annex 5 EB70 Report Annex 8	DR	Yes, the cost of debt is referenced to a standard cost of financing in the capital markets (the Turkish Eurobond rate with the appropriate maturity).	OK	OK
2.5.26. Has the discount rates and benchmarks been derived and supported appropriately?	EB70 Report Annex 8	DR	Yes, these rates have been derived and supported appropriately.	OK	OK
If the company's internal benchmark has been used for the expected return on equity: (Only applicable to benchmark analysis)	EB62 Report Annex 5				
2.5.27. Has it been demonstrated that there is only one possible project developer?	EB62 Report Annex 5	DR	Not applicable.	OK	OK
2.5.28. Has it been demonstrated that same benchmark values are used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB62 Report Annex 5	DR	Not applicable.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.29. If the company's expected return on equity is used as a benchmark, does the percentage of debt financing and equity financing reflect the long-term debt/equity finance structure of the legal entity owning the assets of the project activity?	EB62 Report Annex 5	DR	Not applicable.	OK	OK
2.5.30. If the company's expected return on equity is used as a benchmark, has the cost of debt been based on the weighted average cost of debt financing of the legal entity owning the VCS project activity?	EB62 Report Annex 5	DR	Not applicable.	OK	OK
2.5.31. In case of loans, is the weighted average cost of outstanding long-term debt used as a benchmark?	EB62 Report Annex 5	DR	Not applicable.	OK	OK
2.5.32. In case of bonds, is the weighted average yield of the bonds used as a benchmark?	EB62 Report Annex 5	DR	Not applicable.	OK	OK
2.5.33. In case of bonds, are the key parameters of the bond including the time of maturity, yield, registration issuance in the financial system and set-up in the market documented?	EB62 Report Annex 5	DR	Not applicable.	OK	OK
2.5.34. In case of debt financing from a parent company, is the transfer of capital to the legal entity documented?	EB62 Report Annex 5	DR	Not applicable.	OK	OK
2.5.35. In case of loans from a financial institution, is the contract of lending between the financial institution and the legal entity owning the assets of	EB62 Report Annex 5	DR	Not applicable.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
the project activity, or, in absence of the contract, a letter from the bank stating its intention to award the loan and the key terms for the loan documented and supported by the appropriate evidence?					
Sub-step 2c: Calculation and comparison of financial indicators (Only applicable to investment comparison and benchmark analysis)	EB70 Report Annex 8				
2.5.36. Has the period of assessment including IRR and equity IRR calculations been chosen appropriately?	EB62 Report Annex 5	DR	Yes, the period of assessment is chosen as 46 years. According to the PDD, this is the generation licence period (49 years) minus the amount of time necessary to complete the initial investment (3 years).	OK	OK
2.5.37. Have the PPs justified the period of assessment in the context of the underlying project activity?	EB62 Report Annex 5	DR	Yes, on page 7 of the PDD it is stated that the operational life of the project is 49 years.	OK	OK
2.5.38. In case IRR assessment period doesn't cover the technical lifetime of the project, does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB62 Report Annex 5	DR	The IRR assessment period covers the entire technical lifetime of the project.	OK	OK
2.5.39. Has the fair value of the project activity assets been calculated in accordance with local accounting regulations where available, or international best practice?	EB62 Report Annex 5	DR	Yes, the PPs have included fair values of the project activity assets at the end of the assessment period. However, the following clarifications are needed: 1. Please explain the fair value calculation in cell AW68 of the worksheet "Model 46 YRS". 2. Please explain the fair value calculation in cell AW69 of the worksheet "Model 46 YRS".	CL3	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.40. Do the fair value calculations include both the book value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?	EB62 Report Annex 5	DR	Yes	OK	OK
2.5.41. Have all relevant costs been included for the calculation of IRR or other relevant financial indicator?	EB70 Report Annex 8	DR	Yes, all relevant costs have been included in the calculation of the Equity IRRs. However, the following clarifications are needed: 1. "General production expenses" in Row 38 are calculated as \$1,748,094. However, they are taken as \$1,598,477 in Row 30. Please explain this discrepancy. 2. What are the "Unknown expenses" in Row 57? Please clarify. 3. Is the "Consultancy" cost in Row 59 a sunk cost? Is this cost paid before the start of the project or is it incurred during some part of the project's life? Is this a cost that the project owners must incur regardless of whether the project is started or not? Please clarify. 4. The additional investment cost in Year 37 is shown as \$4,500,000 in cell AM118 of the Model 46 YRS worksheet. On page 23 of the PDD, it is stated that "a reinvestment of USD 6,920,215 is foreseen at the end of year 35". Please provide an explanation for this discrepancy.	CL4	OK
2.5.42. Has the cost of financing expenditures (i.e. loan repayments and interest) been included?	EB62 Report Annex 5	DR	Yes, the cost of financing expenditures has been included in the calculations.	OK	OK
2.5.43. Has the depreciation, and other non-cash items related to the project activity, (those deducted in estimating gross profits on which tax is calculated)	EB62 Report Annex 5	DR	Yes, the non-cash deductions have been added back to the project cash flows in the calculation of the IRR.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
been added back to net profits in the calculation of the financial indicator (e.g. IRR, NPV)?					
2.5.44. In case of using post-tax benchmark, has taxes been included as an expense in the IRR/NPV calculation?	EB62 Report Annex 5	DR	Yes, taxes have been included as an expense in the IRR calculations.	OK	OK
2.5.45. In case any risk premiums are applied in determination of the benchmark, are the same risks associated with the project type or activity, too?	EB79 Report Annex 4 §128-b EB70 Report Annex 8	DR	Yes, the risk premium in the cost of equity reflects both the market-wide and the firm-specific risks that are applicable in the context of this project.	OK	OK
2.5.46. In the equity IRR, has the cost of debt (loan, bond etc.) been considered as the net cash outflow?	EB62 Report Annex 5	DR	Yes, the cost of debt has been considered as a net cash outflow in the calculation of the equity IRR.	OK	OK
2.5.47. Has it been demonstrated that CDM revenue makes the proposed project activity economically or financially feasible (i.e. helps to reach the selected benchmark)?	EB70 Report Annex 8 EB79 Report Annex 4 §124	DR	Yes, the CDM revenue has been shown to help the project returns get closer to the selected benchmark.	OK	OK
ACM0002					
2.5.48. If the proposed project is integrated hydro power project, has the following been considered for the purpose of investment analysis?	ACM 0002 Version 15.0	DR	Yes, a sensitivity analysis has been conducted in which the key input amounts are varied in several scenarios in order to demonstrate the robustness of the initial calculations. Additional sensitivity analyses can be conducted for the unit sales variable.	OK	OK
2.5.48.1. Investment associated with the CDM project activity, i.e.	ACM 0002 Version	DR	Yes, the range of variations is appropriate and justified in the context of the project. Due to the project's nature, many of	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
construction of a new reservoir and new power plants/units;	15.0		the inputs are not expected to vary by large percentage amounts. Therefore, the plus/minus 10% range selected is appropriate.		
2.5.48.2. Revenue due to net electricity generation ($EG_{PJ,y}$) as determined using equation (10) in ACM 0002	ACM 0002 Version 15.0	DR	N/A	OK	OK
AM0058					
2.5.49. Is economic investment analysis based on levelized cost of provided heat (USD/GJ)?	AM0058 Version 3.1	DR	N/A	OK	OK
2.5.50. Does the economic investment analysis explicitly state the following parameters?	AM0058 Version 3.1	DR	N/A	OK	OK
2.5.50.1. Investment requirements (including break-up into major equipment costs, required construction work, and installation);	AM0058 Version 3.1	DR	N/A	OK	OK
2.5.50.2. A discount rate appropriate to the country and sector (use government bond rates, increased by a suitable risk premium to reflect private investment in district heating projects, as substantiated by an independent (financial) expert);	AM0058 Version 3.1	DR	N/A	OK	OK
2.5.50.3. Efficiency of equipment, taking into account any differences between fuels;	AM0058 Version 3.1	DR	N/A	OK	OK
2.5.50.4. Current price and expected	AM0058	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
future price (variable costs) of each fuel	Version 3.1				
2.5.50.5. Revenues from exporting electricity to the grid, based on the feed-in tariff;	AM0058 Version 3.1	DR	N/A	OK	OK
2.5.50.6. Operating costs for each fuel (especially, handling/treatment costs for coal);	AM0058 Version 3.1	DR	N/A	OK	OK
2.5.50.7. Lifetime of the project activity, which is defined to be equal to the remaining lifetime of the existing facility;	AM0058 Version 3.1	DR	N/A	OK	OK
2.5.50.8. Other operation and maintenance costs, e.g. of slag and ash disposal, environmental pollution fees etc.	AM0058 Version 3.1	DR	N/A	OK	OK
Sub-step 2d: Sensitivity analysis (Only applicable to investment comparison and benchmark analysis)	EB70 Report Annex 8				
2.5.51. Has a sensitivity analysis showing whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions, been included in the VCS PD?	EB70 Report Annex 8 EB62 Report Annex 5 EB79 Report Annex 4 §127-e	DR	Yes	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.52. Has the range of variations selected been justified in the context of the project?	EB62 Report Annex 5 EB79 Report Annex 4 §127-e	DR	Yes	OK	OK
Step-3: Barrier analysis	EB70 Report Annex 8				
2.5.53. Have the PPs used and referred the “Guidelines for Objective Demonstration and Assessment of Barriers”?	EB50 Report Annex 13	DR	N/A	OK	OK
Sub-step 3a: Identify barriers that would prevent the implementation of the proposed VCS project activity		DR	N/A	OK	OK
2.5.54. Has the PPs established realistic and credible barriers that would prevent the implementation of the proposed VCS project activity?	EB70 Report Annex 8	DR	N/A	OK	OK
Sub-step 3b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)	EB70 Report Annex 8	DR	N/A	OK	OK
2.5.55. Has the identified barriers that would prevent the implementation of the proposed project activity, but not the implementation of at least one of the alternatives in particular the identified	EB70 Report Annex 8 EB79 Report	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
baseline scenario, been supported by the clear and valid evidence?	Annex 4 §131 §133 EB50 Report Annex 13				
2.5.56. Is it demonstrated and supported by proper evidence how the VCS alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers?	EB50 Report Annex 13 EB79 Report Annex 4 §133 EB70 Report Annex 8	DR	N/A	OK	OK
Investment, technological and other barriers					
2.5.57. In case of investment barriers, is it demonstrated in the VCS PD that the financing of the project was assured only due to the benefit of the VCS?	EB50 Report Annex 13	DR	N/A	OK	OK
2.5.58. Can any of the indicated barriers be eliminated by additional financial investments into the proposed project activity?	EB79 Report Annex 4 §132 EB50 Report Annex 13	DR	N/A	OK	OK
2.5.59. While demonstrating barriers related to the lack of access to capital, technologies and skilled labour, do the PPs provide information on the nature of the companies and entities involved in the financing and implementation of	EB50 Report Annex 13	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
the project?					
Barriers due to prevailing practice					
2.5.60. In case PPs claim that project activity is “first-of-its-kind” have those claims been substantiated and supported by proper evidence?	EB70 Report Annex 8 EB79 Report Annex 4 §135 EB 69 Report Annex 7 §5	DR	N/A	OK	OK
Step-4: Common practice analysis					
2.5.61. If the project is not “first-of-its-kind”, have PPs applied the common practice analysis appropriately?	EB70 Report Annex 8 EB79 Report Annex 4 §135 EB 69 Report Annex 8	DR	Yes	OK	OK
2.5.62. Is the selection of the assessment region explained and justified completely and correctly?	EB79 Report Annex 4 §136-a EB 69 Report Annex 8 §1	DR	The most up-to-date list of the plants operating in Turkey given by Annex-I in the TEIAS Capacity projection report for 2013 was considered. The report lists the plants in operation as of the end of 2012.	OK	OK
Sub-step 4a & Sub-step 4b: Analyze other activities similar to the project activity &	EB70 Report				

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
Discuss similar options that are occurring	Annex 8				
2.5.63. Has the PPs provided an analysis of any other activities that are operational and that are similar to the proposed project activity in the VCS PD?	EB70 Report Annex 8 EB79 Report Annex 4 §136-b	DR	Yes	OK	OK
2.5.64. If similar activities have been identified, has it been demonstrated that there are essential distinctions between them and proposed project activity, which demonstrate the necessity of the VCS benefits?	EB70 Report Annex 8 EB79 Report Annex 4 §136-c	DR	Yes	OK	OK
For the following measures (Questions from 2.5.65 to 2.5.71) - Fuel and feedstock switch - Switch of technology with or without change of energy source (including energy efficiency improvement as well as use of renewable energies); - Methane destruction - Methane formation avoidance	EB69 Report Annex 8 §2				
2.5.65. Have all projects within an applicable output range (+/-50%) been included into the common practice analysis?	EB69 Report Annex 8 §5	DR	The installed capacity of the project is 67.35 MW. Therefore, the lower limit of the applicable output range is 33.675 MW and the upper limit is 101.025 MW.	OK	OK
2.5.66. Have the similar projects (both VCS and non-VCS) been identified?	EB69 Report Annex 8 §6	DR	The most up-to-date list of the plants operating in Turkey given by Annex-I in the TEIAS Capacity projection report for 2013 was considered . The report lists the plants in operation	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
			as of the end of 2012. There are 752 such plants. Renewable energy projects were chosen. There are 451 such projects. Hydro projects were chosen. There are 353 such projects. All the plants chosen produce electricity. The plants whose capacities are between 33.675 MW and 101.025 MW were chosen. There are 54 such projects. All the plants chosen started operation before the project as they were already in operation in 2011.		
2.5.67. If the similar projects have been identified, are the following conditions fulfilled?	EB 69 Report Annex 8 §6	DR		OK	OK
2.5.67.1. Are the projects located in the applicable geographical area?	EB69 Report Annex 8 §6	DR	Yes	OK	OK
2.5.67.2. Are the projects applied the same measure as the proposed project activity?	EB69 Report Annex 8 §6	DR	Yes	OK	OK
2.5.67.3. Do the projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity?	EB69 Report Annex 8 §6	DR	Yes	OK	OK
2.5.67.4. Do the plants in which the	EB69	DR	Yes	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
projects have been implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant?	Report Annex 8 §6				
2.5.67.5. Are the capacity or output of the projects within the applicable capacity or output range calculated in Question 2.5.66?	EB69 Report Annex 8 §6	DR	Yes	OK	OK
2.5.67.6. Do the projects start commercial operation before the PD published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity?	EB69 Report Annex 8 §6	DR	Yes	OK	OK
2.5.68. Within the projects identified in Question 2.5.66, have the following project activities been identified?	EB69 Report Annex 8 §7	DR	Yes	OK	OK
2.5.68.1. Non registered VCS project activities	EB69 Report Annex 8 §7	DR	Nall =54.	OK	OK
2.5.68.2. Project activities not submitted for registration	EB69 Report Annex 8 §7	DR	Refer above	OK	OK
2.5.68.3. Project activities not undergoing validation	EB69 Report Annex 8 §7	DR	Refer above	OK	OK
2.5.69. Within similar projects identified in Question 2.5.68, have the projects applying technologies that are different	EB69 Report Annex 8	DR	Ndiff=54	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
to the technology applied in the proposed project activity been identified?	\$4 \$8 EB70 Report Annex 8 EB79 Report Annex 4 \$136				
2.5.70. Has the factor ($F=1-N_{diff} / N_{all}$) been calculated correctly?	EB69 Report Annex 8 §9	DR	Yes	OK	OK
2.5.71. Based on an analysis provided in the PD, is it possible to conclude that the proposed project activity is not common practice?	EB69 Report Annex 8 §10	DR	Yes	OK	OK
2.5.72. Has the selected methodology been correctly applied with respect to additionality?	EB79 Report Annex 4§72	DR	Yes	OK	OK
2.5.73. As a result, has the PPs demonstrated that the project activity is additional in accordance with the selected methodology(ies) and tool(s)?	CDM-PDD- FORM version 5.0 EB79 Report Annex 4 §106	DR	Yes	OK	OK
2.6. Methodology Deviations					
2.6.1. If there are deviations from the methodology, has the PPs provided and justified the methodology	VCS Std. Version 3.4	DR	There are no methodology deviations.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
deviations?					
2.6.2. If there are deviations from the methodology, has the evidence been provided on the following?	VCS Std. Version 3.4	DR	N/A	OK	OK
2.6.2.1. The deviation will not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.	VCS Std. Version 3.4	DR	N/A	OK	OK
2.6.2.2. The deviation relates only to the criteria and procedures for monitoring or measurement, and does not relate to any other part of the methodology	VCS Std. Version 3.4	DR	N/A	OK	OK
3. QUANTIFICATION of GHG EMISSION REDUCTIONS and REMOVALS					
3.1. Baseline Emissions					
3.1.1. Do the steps taken and equations applied to calculate baseline emissions comply with the requirements of the selected baseline and monitoring methodology including applicable tool(s)?	VCS Std. Version 3.4 EB79 Report Annex 4 §103 §104 CDM-PDD-FORM version 5.0	DR	Yes, methodology and tools are correctly applied.	OK	OK
3.1.2. Is it explained and clearly stated how the procedures in the approved methodology to calculate baseline emissions are applied by the PPs?	VCS Std. Version 3.4 EB79 Report Annex 4	DR	Yes	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	§104-d CDM-PDD-FORM version 5.0				
3.2. Project Emissions					
3.2.1. Do the steps taken and equations applied to calculate project emissions comply with the requirements of the selected baseline and monitoring methodology including applicable tool(s)?	VCS Std. Version 3.4 EB79 Report Annex 4 §103 §104 CDM-PDD-FORM version 5.0	DR	Calculated correctly as zero.	OK	OK
3.2.2. Is it explained and clearly stated how the procedures in the approved methodology to calculate project emissions are applied by the PPs?	VCS Std. Version 3.4 EB79 Report Annex 4 §104-d CDM-PDD-FORM version 5.0	DR	Yes	OK	OK
3.2.3. Are all relevant methodological choices / scenarios explained as follows:	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
3.2.3.1. Where the methodology includes different scenarios or cases for the calculation of emission reductions, is it	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
explained and justified which scenario or case applies to the project activity?					
3.2.3.2. Where the methodology provides different options for equations or parameters, is it explained and justified which option is chosen for the project activity?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §102	DR	N/A	OK	OK
3.2.3.3. Where the methodology provides for different default values, is it explained and justified which of the default values have been chosen for the project activity?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
3.3. Leakage					
3.3.1. Do the steps taken and equations applied to calculate leakage comply with the requirements of the selected baseline and monitoring methodology including applicable tool(s)?	VCS Std. Version 3.4 EB79 Report Annex 4 §103 §104 CDM-PDD-FORM version 5.0	DR	No leakage is considered in the proposed project, LEy =0.	OK	OK
3.3.2. Is it explained and clearly stated how the procedures in the approved methodology to calculate leakages are applied by the PPs?	VCS Std. Version 3.4 EB79 Report Annex 4	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	§104-d CDM-PDD- FORM version 5.0				
3.4. Summary of GHG Emission Reductions and Removals					
3.4.1. Have the project proponents included the description of the procedure for quantification of the net GHG emission reductions and removals including all relevant equations?	VCS Std. Version 3.4	DR	All calculations are clearly explained.	OK	OK
3.4.2. Are the ex-ante calculation (estimate) of baseline emissions/removals, project emissions/removals, leakage emissions and net emission reductions and removals provided in a tabular format?	VCS Std. Version 3.4	DR	Yes	OK	OK
3.4.3. Has it been documented how each equation is applied in a manner that enables the reader to reproduce the calculation?	VCS Std. Version 3.4	DR	Yes	OK	OK
3.4.4. Are the example calculations for all key equations provided to allow the reader to reproduce the calculation of estimated net GHG emission reductions or removals?	VCS Std. Version 3.4	DR	Yes	OK	OK
ACM 0002					
3.4.5. Are baseline emissions calculated using equation (7) given in the methodology?	ACM 0002 Version 15.0	DR	Yes	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
3.4.6. Is the quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y ($EG_{PJ,y}$) calculated using equations (8), (9), (10), (11) or (12) given in the methodology depending on the project type and relevant requirements? ➤	ACM 0002 Version 15.0	DR	Yes	OK	OK
3.4.7. When the methodology offers options for approaches in calculations, is it documented in the PDD which option is applied?	ACM 0002 Version 15.0	DR	Yes, choices are explained.	OK	OK
3.4.8. In the case of retrofits or replacements, has the point in time when the existing equipment would need to be replaced/retrofitted in the absence of the project chosen in a conservative manner?	ACM 0002 Version 15.0	DR	N/A	OK	OK
3.4.9. In the case of capacity additions, retrofits, rehabilitations or replacements (except for wind, solar, wave or tidal power capacity addition projects)	ACM 0002 Version 15.0	DR	N/A	OK	OK
3.4.10. Is it ensured that 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?	ACM 0002 Version 15.0	DR	N/A	OK	OK
3.4.11. Is it defined in the baseline emission section that no capacity addition,	ACM 0002 Version	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
retrofit or rehabilitation of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity?	15.0				
3.4.12. Are the project emissions calculated properly using equations (1), (2), (3), (4), (5) or (6) given in the methodology depending on the project type and the power density value?	ACM 0002 Version 15.0	DR	Yes	OK	OK
3.4.13. Where project emissions are taken as "0", has the PP made proper justification?	ACM 0002 Version 15.0	DR	Yes	OK	OK
3.4.14. Are the emission reductions calculated using equation (13) given in the methodology?	ACM 0002 Version 15.0	DR	Yes	OK	OK
AMS I.C.					
3.4.15. Are the baseline emissions for electricity produced in captive plants calculated using equation (1) given in the methodology?	AMS I.C. Version 20 §31	DR	N/A	OK	OK
3.4.16. Are the baseline emissions for supply of electricity to and/or displacement of electricity from a grid calculated using equation (2) given in the methodology?	AMS I.C. Version 20 §32	DR	N/A	OK	OK
3.4.17. Are the baseline emissions for thermal energy produced using fossil fuels and/or grid electricity calculated using equation (3) given in the methodology?	AMS I.C. Version 20 §33 §34	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
3.4.18. Is the emission factor of electricity determined according to the following?	AMS I.C. Version 20 §35	DR	N/A	OK	OK
3.4.18.1. For project activities that displace on-site captive electricity and/or displace grid electricity import and/or supply electricity to a grid, does the electricity emission factor reflect the emissions intensity of the captive power plant and the grid of the baseline scenario?	AMS I.C. Version 20 §35	DR	N/A	OK	OK
3.4.18.2. For project activities that do not displace captive electricity generated by an existing plant but displace grid electricity import and/or supply electricity to a grid, does the emission factor of the grid calculated as per the procedures detailed in AMS-I.D or AMS-I.F?	AMS I.C. Version 20 §36	DR	N/A	OK	OK
3.4.18.3. For new facilities, has the emission factor of electricity taken as the most conservative (lowest) emission factor of the two power sources (captive power plant and grid)?	AMS I.C. Version 20 §37	DR	N/A	OK	OK
3.4.19. Are the baseline emissions for electricity and thermal energy produced in a baseline cogeneration or trigeneration unit using fossil fuel calculated using equation (4) given in the methodology?	AMS I.C. Version 20 §38	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
3.4.20. In the case of an existing baseline cogeneration or trigeneration plant, is the efficiency of the baseline units determined by adopting one of the following criteria with the exclusion of cogeneration plants?	AMS I.C. Version 20 §39	DR	N/A	OK	OK
3.4.20.1. Most recent three years operational data immediately prior to the start date of the project activity in case of existing facilities which has more than three years of operation history;	AMS I.C. Version 20 §25	DR	N/A	OK	OK
3.4.20.2. A minimum of most recent one year data in case of existing facilities which has more than three years of operation history but do not have three years operational data; or	AMS I.C. Version 20 §25	DR	N/A	OK	OK
3.4.20.3. A performance test/measurement campaign carried out prior to the implementation of the project activity in case of existing facilities which has more than three years of operation history but do not have operational data/information such as efficiency, energy consumption and output or the available data is not reliable due to various factors such as the use of imprecise or non-calibrated measuring equipment. The project proponent may follow the relevant provisions from the "Tool	AMS I.C. Version 20 §25 §30	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
to determine baseline efficiency of thermal and electricity systems".					
3.4.20.4. For household or commercial applications/systems, whose maximum output capacity is less than 45 kW thermal and where it can be demonstrated that the metering of thermal energy output is not plausible, as in the case of cooking stoves, gasifiers, driers, water heaters etc., is the efficiency of the baseline units determined by adopting one of the following criteria?	AMS I.C. Version 20 §42	DR	N/A	OK	OK
3.4.20.5. Highest measured operational efficiency over the full range of operating conditions of a representative sample of units with similar specifications, using baseline fuel	AMS I.C. Version 20 §42-a	DR	N/A	OK	OK
3.4.20.6. Highest of the efficiency values provided by two or more manufacturers for units with similar specifications using the baseline fuel	AMS I.C. Version 20 §42-b	DR	N/A	OK	OK
3.4.20.7. Highest efficiency from referenced literature values or default efficiency of 100%.	AMS I.C. Version 20 §42-c	DR	N/A	OK	OK
3.4.21. For the cases where electricity is imported from a grid and/or produced	AMS I.C. Version 20	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
in an on-site captive power plant using fossil fuel thermal energy is produced using biomass, are the baseline emissions from production of electricity calculated in line with the paragraphs 29 and 30 of the methodology?	§43				
3.4.22. For the cases where the electricity is produced in an on-site captive power plant using biomass (with a possibility of export to a grid) and/or imported from a grid; thermal energy is produced using fossil fuel, are the baseline emissions from the production of thermal energy using fossil fuel calculated using equation (1) given in the methodology?	AMS I.C. Version 20 §31 §44	DR	N/A	OK	OK
3.4.23. For the cases where electricity and thermal energy are produced in a biomass fired cogeneration unit and for the cases where electricity is imported from a grid and/or produced in a biomass fired cogeneration unit; steam/heat is produced in a biomass fired cogeneration unit and/or a biomass fired boiler, are the baseline emissions from the additional production of electricity that displaces grid electricity import and/or supply electricity to the grid, calculated using as per the procedures detailed in AMS-I.D or AMS-I.F as applicable?	AMS I.C. Version 20 §29 §45	DR	N/A	OK	OK
3.4.24. For the cases where the electricity and/or thermal energy produced in a	AMS I.C.	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
co-fired system and other project activities where the baseline is a co-fired system, are the baseline emissions determined based on three years average historical data on the relative share of fossil fuel and biomass in the baseline fuel mix using equation (5) given in the methodology?	Version 20 §46				
3.4.25. For the cases where the electricity is imported from a grid and/or produced in an on-site captive power plant using fossil fuel and thermal energy is produced using electricity, are the baseline emissions calculated using equation (6) given in the methodology?	AMS I.C. Version 20 §47	DR	N/A	OK	OK
3.4.26. For the cases where the electricity is imported from a grid and/or produced in an on-site captive power plant using fossil fuel and thermal energy is produced using electricity, are the baseline electricity related emissions (BE _{grid,y}) calculated using equation (2) given in the methodology?	AMS I.C. Version 20 §48	DR	N/A	OK	OK
3.4.27. For the cases where the electricity is imported from a grid and/or produced in an on-site captive power plant using fossil fuel and thermal energy is produced using electricity, are the baseline emissions (BE _{captivelec,y}) from electricity obtained from captive power plant(s), calculated using equation (1) given in the methodology?	AMS I.C. Version 20 §49	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
3.4.28. For the cases where the electricity is imported from a grid and/or produced in an on-site captive power plant using fossil fuel and thermal energy is produced using electricity, are the baseline emissions associated with the electricity consumed, whether it is from captive power plants and/or power from the grid, to produce chilled water within the project boundary are determined using equation (7) given in the methodology?	AMS I.C. Version 20 §50	DR	N/A	OK	OK
3.4.29. For the cases where the electricity is imported from a grid and/or produced in an on-site captive power plant using fossil fuel and thermal energy is produced using electricity, is the baseline scenario chiller COP (COP _{c,i}) determined in the following manner?	AMS I.C. Version 20 §50-a	DR	N/A	OK	OK
3.4.29.1. If the baseline scenario is an existing chiller or chillers, then the COP shall be based on existing chiller performance data as specified in paragraph 25 of the methodology	AMS I.C. Version 20 §50-a-i	DR	N/A	OK	OK
3.4.29.2. If the baseline scenario is a chiller or chillers that would have been built (i.e. not existing chillers), the COP shall be determined as the highest COP full load performance value provided by two or more manufacturers for chillers commonly sold in the project	AMS I.C. Version 20 §50-a-ii	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
country for the indicated commercial application;					
3.4.29.3. For the cases where the electricity is imported from a grid and/or produced in an on-site captive power plant using fossil fuel and thermal energy is produced using electricity, is the cooling output of each baseline scenario chiller calculated using equation (8) given in the methodology?	AMS I.C. Version 20 §50-b	DR	N/A	OK	OK
3.4.30. For project activities with water heating systems, that use electricity, are the baseline emissions determined using equation (9) given in the methodology?	AMS I.C. Version 20 §51	DR	N/A	OK	OK
3.4.31. For the cases where project activities involve the addition of renewable energy units at an existing renewable energy production facility, are the existing units considered in the determination of baseline emissions, project emissions, and/or leakage, as relevant?	AMS I.C. Version 20 §52	DR	N/A	OK	OK
3.4.32. In the cases where project activities involve the addition of new energy production units at an existing facility has the net increase in thermal energy been calculated using equations (10) and (11) given in the methodology?	AMS I.C. Version 20 §53 §54 §55 §56	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
3.4.33. If the project activity seeks to retrofit or modify an existing facility to enhance the energy conversion efficiency, is the thermal energy production by an existing facility calculated using equation (12) given in the methodology?	AMS I.C. Version 20 §58	DR	N/A	OK	OK
3.4.34. If the project activity seeks to retrofit or modify an existing facility to enhance the energy conversion efficiency, are the baseline emissions from the incremental thermal energy supplied due to retrofit calculated using equation (13) given in the methodology?	AMS I.C. Version 20 §59	DR	N/A	OK	OK
3.4.35. If the project activity seeks to retrofit or modify an existing facility to enhance the energy conversion efficiency, are the requirements concerning the demonstration of the remaining lifetime of the replaced equipment met as described in the "General Guidelines for SSC CDM methodologies"?	AMS I.C. Version 20 §60 §61	DR	N/A	OK	OK
3.4.36. In case of the project activities that seek to retrofit or modify an existing facility for the purpose of fuel switch from fossil fuels to biomass in heat generation equipment, are the baseline emissions calculated using equation (2) given in the methodology?	AMS I.C. Version 20 §62	DR	N/A	OK	OK
3.4.37. In case of household or commercial applications/systems, whose maximum	AMS I.C. Version 20	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
output capacity is less than 45 kW thermal and where it can be demonstrated that the metering of thermal energy output is not plausible, as in the case of biomass stoves, gasifiers, driers, water heaters etc., are the baseline emissions calculated as per equation (14) given in the methodology?	§63				
3.4.38. If applicable, are the quantities and types of biomass and the biomass to fossil fuel ratio (in the case of co-fired systems) to be used during the crediting period explained and documented transparently in the CDM-PDD?	AMS I.C. Version 20 §64	DR	N/A	OK	OK
3.4.39. If applicable, have the ex-ante estimation of biomass and the biomass to fossil fuel ratio quantities been provided for the selection of the baseline scenario?	AMS I.C. Version 20 §64	DR	N/A	OK	OK
3.4.40. If applicable, is the project emissions calculated using equation (15) in the methodology?	AMS I.C. Version 20 §65	DR	N/A	OK	OK
3.4.41. If applicable, are the project emissions from on-site consumption of fossil fuels calculated using the latest version of the "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion"?	AMS I.C. Version 20 §66	DR	N/A	OK	OK
3.4.42. If applicable, are the project emissions resulting from the electricity consumption by the project activity	AMS I.C. Version 20	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
calculated using the latest version of the "Tool to calculate baseline, project and/or leakage emissions from electricity consumption"?	§67				
3.4.43. In case of geothermal project activities, have the PPs accounted for the following emission sources, where applicable?	AMS I.C. Version 20 §68	DR	N/A	OK	OK
3.4.43.1. Fugitive emissions of carbon dioxide and methane due to release of non-condensable gases from produced steam	AMS I.C. Version 20 §68	DR	N/A	OK	OK
3.4.43.2. Carbon dioxide emissions resulting from combustion of fossil fuels related to the operation of the geothermal power plant	AMS I.C. Version 20 §68	DR	N/A	OK	OK
3.4.44. In case of geothermal project activities, are the project emissions calculated using equations (16), (17) and (18) given in the methodology?	AMS I.C. Version 20 §69 §70 §71	DR	N/A	OK	OK
3.4.45. In case of trigeneration project activities, are the project emissions calculated using equations (19) and (20) and the options given in the methodology?	AMS I.C. Version 20 §72 §73 §74	DR	N/A	OK	OK
3.4.46. In cases where the project activity utilizes biomass sourced from dedicated plantations, are the project emissions from biomass cultivation calculated according to the latest version of "Project emissions from	AMS I.C. Version 20 §75	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
cultivation of biomass" tool?					
3.4.47. In cases where the energy generating equipment currently being utilised is transferred from outside the boundary to the project activity, is the leakage considered?	AMS I.C. Version 20 §76 §79	DR	N/A	OK	OK
3.4.48. In cases where the collection /processing /transportation of biomass residues is outside the project boundary and due to the implementation of the project activity biomass residues are transported over a distance of 200 kilometres, are the CO2 emissions from the collection, processing and transportation of biomass residues to the project site calculated using the latest version of tool "Project and leakage emissions from transportation of freight"?	AMS I.C. Version 20 §77	DR	N/A	OK	OK
3.4.49. In case of biomass project activities, are the leakage emissions on account of the diversion of biomass residues from other uses calculated in line with the latest version of "General guidance on leakage in biomass project activities"?	AMS I.C. Version 20 §79	DR	N/A	OK	OK
3.4.50. Have the PPs calculated the emission reductions using equation (21) given in the methodology?	AMS I.C. Version 20 §80	DR	N/A	OK	OK
AMS I.D.					
3.4.51. Are baseline emissions calculated using equation (1) given in the	AMS I.D.	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
methodology?	Version 17.0 §11				
3.4.52. Is the emission factor calculated using one of the following options:	AMS I.D. Version 17.0 §12	DR	N/A	OK	OK
3.4.52.1. A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the "Tool to calculate the Emission Factor for an electricity system	AMS I.D. Version 17.0 §12	DR	N/A	OK	OK
3.4.52.2. The weighted average emissions (in t CO ₂ /MWh) of the current generation mix.	AMS I.D. Version 17.0 §12	DR	N/A	OK	OK
3.4.53. Have the calculations been based on data from an official source (where available) and made publicly available?	AMS I.D. Version 17.0 §12	DR	N/A	OK	OK
3.4.54. If the project is a landfill gas, waste gas, wastewater treatment or agro industries project, in which recovered methane is used for electricity generation to supply to a grid, is the baseline calculated in accordance with the related paragraphs of AMS I.D.?	AMS I.D. Version 17.0 §13	DR	N/A	OK	OK
3.4.55. If the proposed project activity is the retrofit/capacity addition of hydro, solar, wind, geothermal, wave or tidal plants, is the baseline emissions calculated using equation (2) given in the methodology?	AMS I.D. Version 17.0 §15	DR	N/A	OK	OK
3.4.56. To have the PPs chose between the	AMS I.D.	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
following historical periods to determine $EG_{historical}$?	Version 17.0 §15				
3.4.56.1. The three last calendar years (five calendar years for hydro project) prior to the implementation of the project activity	AMS I.D. Version 17.0 §15	DR	N/A	OK	OK
3.4.56.2. The time period from the calendar year following $DATE_{hist}$, up to the last calendar year prior to the implementation of the project, as long as this time span includes at least three calendar years (five calendar years for hydro project), where $DATE_{hist}$ is latest point in time between:	AMS I.D. Version 17.0 §15	DR	N/A	OK	OK
3.4.56.2.1. The commercial commissioning of the plant/unit;	AMS I.D. Version 17.0 §15	DR	N/A	OK	OK
3.4.56.2.2. If applicable: the last capacity addition to the plant/unit; or	AMS I.D. Version 17.0 §15	DR	N/A	OK	OK
3.4.56.2.3. If applicable: the last retrofit of the plant/unit	AMS I.D. Version 17.0 §15	DR	N/A	OK	OK
3.4.57. If the proposed project activity is the retrofit of renewable energy units not covered in paragraph 15 of the methodology are the baseline	AMS I.D. Version 17.0 §16	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
emissions calculated using equation (5) given in the methodology?					
3.4.58. If the proposed project activity is the capacity addition with renewable energy units not covered in paragraph 15 of the methodology are the baseline emissions calculated using equation (8) given in the methodology?	AMS I.D. Version 17.0 §18	DR	N/A	OK	OK
3.4.59. Where the project emissions are taken as "0" have the PPs made proper justification?	AMS I.D. Version 17.0 §20	DR	N/A	OK	OK
3.4.60. If the proposed project activity is a geothermal power plant or a hydropower plant, have the project emissions been considered following the procedure described in most recent version of AMS I.D.?	AMS I.D. Version 17.0 §20	DR	N/A	OK	OK
3.4.61. If necessary, have the PPs calculated the CO2 emissions from on-site consumption of fossil fuels due to the project activity using the latest version of the "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion?	AMS I.D. Version 17.0 §21	DR	N/A	OK	OK
3.4.62. If the energy generating equipment is transferred from another activity, have the PPs considered leakage?	AMS I.D. Version 17.0 §22	DR	N/A	OK	OK
3.4.63. Are the emission reductions calculated using equation (10) given in the methodology?	AMS I.D. Version 17.0 §23	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
AM0058					
3.4.64. Are the baseline emissions calculated using equation (1) in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.65. Are the baseline emissions from heat generation calculated using equation (2) in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.66. Is the estimated value of heat supplied in the project year y to category j building supplied by substation I calculated using equation (3) in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.67. For the cases where the category j consists of existing buildings, is the quantity of heat supplied to this category from sub-station i estimated equation (4) in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.68. For the cases where category j consists of new buildings, is the quantity of heat supplied to this category estimated in line with the defined rules in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.69. Is the CO2 emission factor for heat supply in the baseline calculated for each category j supplied by sub-station i determined using equation (5) in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.70. For all categories j, where the identified baseline scenario is the generation of heat in the existing boiler houses or the establishment of new isolated heat distribution networks	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
using fossil fuel fired boilers, are the emission factor of fuel(s) used calculated?					
3.4.71. For all categories j, where the identified baseline scenario is different from the generation of heat in the existing boiler houses or the establishment of new isolated heat distribution networks using fossil fuel fired boilers, are the emission factor of fuel(s) taken as "0"?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.72. For all categories j of new buildings that are attached to a network that is predominantly (more than 50%) supplied by heat from heat-only boilers (rather than from the power plant) are the emission factor of fuel(s) taken as "0"?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.73. Are the efficiency of boilers used in the absence of the project activity determined using the relevant rules defined in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.74. Are the baseline emissions from the power generation calculated using equation (6) and (7) in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.75. Are the project emissions calculated using latest applicable version of "Tool To Calculate Project or Leakage CO2 Emissions From Fossil Fuel Combustion" and the relevant principles defined in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
3.4.76. Are the leakage emissions calculated using equation (8) in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.77. Are the leakage emissions due to decrease in electricity supply to the grid from the power plant as a consequence of the project activity calculated using equation (9) in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
3.4.78. Are the emission reductions calculated using equation (10) in the methodology?	AM0058 Version 3.1	DR	N/A	OK	OK
4. MONITORING					
4.1. Data and Parameters That Are Available At Validation					
4.1.1. Are all data sources and assumptions for the ex-ante values, appropriate and correct?	CDM-PDD-FORM version 5.0	DR	All correct.	OK	OK
4.1.2. Are all ex-ante values applicable to the proposed VCS project activity?	CDM-PDD-FORM version 5.0	DR	Applicable.	OK	OK
4.1.3. Are all ex-ante values resulting in an accurate or otherwise conservative estimate of the emission reductions?	CDM-PDD-FORM version 5.0	DR	They are accurate or conservative.	OK	OK
4.1.4. Are the ex-ante data and parameters correct?	CDM-PDD-FORM version 5.0	DR	All correct.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
4.1.5. Are the units of the data and parameters specified correctly?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	All correct.	OK	OK
4.1.6. Are the description of data and parameters given correctly?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	All correct.	OK	OK
4.1.7. Is the choice of the source of data explained and justified?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	explained and justified.	OK	OK
4.1.8. Are the applied actual values provided correctly?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	All correct.	OK	OK
4.1.9. Is the choice of data explained and justified?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	explained and justified.	OK	OK
4.1.10. Where values have been measured, has a description of the measurement methods and procedures (e.g. which standards have been used) been included?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
4.1.11. Where values have been measured, are the following included in the VCS PD?	CDM-PDD-FORM	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	version 5.0				
4.1.11.1. The equipment used	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
4.1.11.2. responsible person/entity undertaken measurement having the	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
4.1.11.3. the date of measurement(s)	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
4.1.11.4. the frequency of measurement(s)	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
4.1.11.5. the measurement results?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
4.2. Data and Parameters Monitored					
4.2.1. In the data/parameter tabular formats for monitoring, has the name of the each data/parameter been included?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0 AM0058 Version 3.1	DR	Please also include electricity generated in section 4.2 tables.	CAR2	OK
4.2.2. Has the unit of the each data/parameter been included?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	Included.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
4.2.3. Has the description of the each data/parameter been included?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	Included.	OK	OK
4.2.4. Has the source of the each data/parameter been included?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	Included.	OK	OK
4.2.5. Where several sources of data/parameters are used, is the choice of data sources explained and justified?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	explained and justified.	OK	OK
4.2.6. Has the frequency of monitoring/recording been included?	VCS Std. Version 3.4	DR	Included.	OK	OK
4.2.7. Are the applied actual values provided correctly?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	All correct.	OK	OK
4.2.8. Has the measurement methods and procedures been included?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	Included.	OK	OK
4.2.9. Has the PPs included which measurement equipment is used for monitoring?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	Included.	OK	OK
4.2.10. Has the PPs included how the measurement is undertaken?	VCS Std. Version 3.4	DR	Included.	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
	CDM-PDD-FORM version 5.0				
4.2.11. Have the PPs included description of calibration procedures for the monitoring equipment?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	Included.	OK	OK
4.2.12. Has the accuracy level of the measurement method included?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	Included.	OK	OK
4.2.13. Has the responsible person/entity and the interval for the measurements included?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0	DR	Included.	OK	OK
4.2.14. If applicable, has the calculation method been included?	VCS Std. Version 3.4	DR	N/A	OK	OK
4.2.15. If the sampling approach is used by the PPs, does the sampling plan present a reasonable approach for obtaining unbiased, reliable estimates of the variables?	EB75 Report Annex 8 §41a	DR	N/A	OK	OK
4.2.16. If the sampling approach is used by the PPs, are the elements of objectives and reliability requirements complete?	EB75 Report Annex 8 §41a-i	DR	N/A	OK	OK
4.2.17. If the sampling approach is used by the PPs, do the requirements specified agree with those stated in the	EB75 Report Annex 8	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
appropriate standards?	§41a-i				
4.2.18. If the sampling approach is used by the PPs, is the population in the sampling plan clearly defined?	EB75 Report Annex 8 §41b	DR	N/A	OK	OK
4.2.19. If the sampling approach is used by the PPs, is the proposed sampling approach clear?	EB75 Report Annex 8 §41c	DR	N/A	OK	OK
4.2.20. If the sampling approach is used by the PPs, does the sampling approach comply with the description of the population?	EB75 Report Annex 8 §41c-ii	DR	N/A	OK	OK
4.2.21. If the sampling approach is used by the PPs, is the proposed sample size adequate to achieve the minimum confidence/precision requirements?	EB75 Report Annex 8 §41d	DR	N/A	OK	OK
4.2.22. If the sampling approach is used by the PPs, is the ex-ante estimate of the population variance needed for the calculation of the sample size adequately justified?	EB75 Report Annex 8 §41d	DR	N/A	OK	OK
4.2.23. If the sampling approach is used by the PPs, is the sample representative of the population?	EB75 Report Annex 8 §41e	DR	N/A	OK	OK
4.2.24. If the sampling approach is used by the PPs, is it identified how the	EB75 Report	DR	N/A	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
sampling frame would be kept?	Annex 8 §41e-ii				
4.2.25. If the sampling approach is used by the PPs, are the methods of data collection clear and unambiguous?	EB75 Report Annex 8 §41f-i	DR	N/A	OK	OK
4.2.26. If the sampling approach is used by the PPs, are the procedures for the data measurements defined appropriately and clearly?	EB75 Report Annex 8 §41g	DR	N/A	OK	OK
4.2.27. If the sampling approach is used by the PPs, do the procedures for measurements adequately provide for minimizing non-sampling errors?	EB75 Report Annex 8 §41g	DR	N/A	OK	OK
4.2.28. If the sampling approach is used by the PPs, is the quality control and assurance strategy adequate?	EB75 Report Annex 8 §41g-i	DR	N/A	OK	OK
4.2.29. If the sampling approach is used by the PPs, are the proposed skill sets, qualifications and experience of the personnel to be engaged to conduct sampling adequate?	EB75 Report Annex 8 §41h-i	DR	N/A	OK	OK
4.3. Description of the Monitoring Plan					
4.3.1. Does the VCS PD include a monitoring plan?	EB79 Report Annex 4 §138	DR	Yes	OK	OK

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Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
4.3.2. Do the means of monitoring described in the plan comply with the requirements of the approved monitoring methodology including the applicable tool(s)?	EB79 Report Annex 4 §138 §139	DR	Monitoring is correct.	OK	OK
4.3.3. Does the monitoring plan include a detailed description of the monitoring process?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §139	DR	Monitoring is explained in detail.	OK	OK
4.3.4. Does the monitoring plan cover all monitoring parameters required by the methodology?	EB79 Report Annex 4 §139-a-i	DR	Yes	OK	OK
4.3.5. Are the organizational structure, responsibilities and competencies of the personnel that will be carrying out monitoring activities identified?	VCS Std. Version 3.4	DR	Responsibilities are stated.	OK	OK
4.3.6. Are the methods for generating, recording, storing, aggregating, collating and reporting data on monitored parameters described?	VCS Std. Version 3.4	DR	Yes	OK	OK
4.3.7. Are the policies for oversight and accountability of monitoring activities described?	VCS Std. Version 3.4	DR	Yes	OK	OK
4.3.8. Are the procedures for handling internal auditing and non-conformities described?	VCS Std. Version 3.4	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
4.3.9. If the sampling approaches used in the monitoring plan, has the following been included?	VCS Std. Version 3.4	DR	N/A	OK	OK
4.3.9.1. target precision levels	VCS Std. Version 3.4	DR	N/A	OK	OK
4.3.9.2. sample sizes	VCS Std. Version 3.4	DR	N/A	OK	OK
4.3.9.3. sample site locations	VCS Std. Version 3.4	DR	N/A	OK	OK
4.3.9.4. stratification	VCS Std. Version 3.4	DR	N/A	OK	OK
4.3.9.5. frequency of measurement and	VCS Std. Version 3.4	DR	N/A	OK	OK
4.3.9.6. QA/QC procedures.	VCS Std. Version 3.4	DR	N/A	OK	OK
4.3.10. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	EB79 Report Annex 4 §139-b-i	DR	Yes	OK	OK
4.3.11. Is the operational and management structure for the monitoring of emission reductions or any leakage emissions described in the monitoring plan?	CDM-PDD-FORM version 5.0	DR	Yes	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
4.3.12. Does the monitoring plan clearly indicate the responsibilities and internal arrangements for data collection and archiving?	CDM-PDD-FORM version 5.0	DR	Yes	OK	OK
4.3.13. Does the monitoring plan reflect good monitoring practices appropriate to the type of project activity?	CDM-PDD-FORM version 5.0	DR	Yes	OK	OK
4.3.14. Are measurements conducted with according to relevant industry or national/international standards?	CDM-PDD-FORM version 5.0	DR	Yes	OK	OK
4.3.15. Where appropriate, are the line diagrams to display the GHG data collection and management system been included?	VCS Std. Version 3.4	DR	Yes	OK	OK
AM0058					
4.3.16. Is the heat supplied to final consumers measured at each sub-station i as part of the monitoring plan?	AM0058 Version 3.1	DR	N/A	OK	OK
5. ENVIRONMENTAL IMPACTS					
5.1. Has an analysis of the environmental and social impacts of the project activity been sufficiently described and supported by the valid and credible evidence?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §141	DR	EIA Positive document is provided to DOE.	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
5.2. Are transboundary environmental and social impacts considered in the analysis and attached to the VCS PD?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §141		Stated in section 5 of PD.	OK	OK
5.3. If there are any Host Party requirements for Environmental Impact Assessment (EIA), have the PPs undertaken an EIA in accordance with the Host Party's procedures and requirements?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §142	DR	EIA Positive document is provided to DOE.	OK	OK
5.4. Are the conclusions and references to support EIA provided?	CDM-PDD-FORM version 5.0	DR	EIA Positive document is provided to DOE.	OK	OK
5.5. If EIA hasn't been prepared by the PPs, are the clear and valid evidence been provided regarding this issue?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
6. STAKEHOLDER COMMENTS					
6.1. Is the process for the invitation and compilation of local stakeholder comments described in the VCS PD?	VCS Std. Version 3.4 CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §146	DR	As it was not mandatory by law, a stakeholder meeting has not been planned. Tepekisla village is away from the project anyway.	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
6.2. Is the invitation made in an open and transparent manner with use of appropriate means?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
6.3. Is the reasonable time given to the stakeholders to submit their comments?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
6.4. Is it possible to conclude based on stakeholder meeting presentation materials that project was described in an understandable manner to the local stakeholders?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
6.5. Is the local stakeholder process completed before the validation?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
6.6. Are the stakeholders having comments identified?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK
6.7. Is the summary of the stakeholder comments provided sufficiently in the VCS PD?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §146-b	DR	N/A	OK	OK
6.8. Have the PPs taken due account of any comments received and described this process in the VCS PD?	CDM-PDD-FORM version 5.0 EB79 Report Annex 4 §146-c	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Question	Reference	Means of validation *	Findings, comments, references and document sources	Draft opinion	Final opinion
Annex-1 Baseline information					
1.If any further background information regarding the application of the baseline methodology is provided, is this information correct and supported by the appropriate evidence?	CDM-PDD-FORM version 5.0	DR	Data provided is correct.	OK	OK
Annex-2 Monitoring information					
1.If any further background information regarding the application of the monitoring methodology is provided, is this information correct and supported by the appropriate evidence?	CDM-PDD-FORM version 5.0	DR	N/A	OK	OK

*DR= Document Review, I= Interview, SV= Site Visit

Table 2 – Resolution of Corrective Action, Forward Action and Clarification Requests

Draft Report Clarifications, Forward Action and Corrective Action Requests by Validation Team	Ref. to Checklist Questions in Table-1	Summary of Project Participants' Response	Validation Team Conclusion
CAR1 The plant has been projected to comprise Tepekisla Dam, cofferdam of upstream and downstream, penstock, a headpond, a spillway and a powerhouse, having 2 Francis turbines of horizontal axis with 34.48 MW power each and a one Francis turbines of horizontal axis with 4.33 MW power. License and FSR indicate different numbers for capacity of turbines. Please put PD in line with them and also indicate unit as MWm or MWe. Please state correctly turbine types (Kaplan or francis)	T1 1	The capacity and types of turbines has been corrected in line with license and revised FSR.	Review 1 Corrected to be in line with the license. Closed.
CAR2 Please also include electricity generated in section 4.2 tables.	T1 4.2.1	EGfacility,y has been added under section 4.2.	Review 1 Added. Closed.
CL1 Please provide construction contract and site delivery protocol showing the date of construction start.	T1 1.5.3.2	All the regarding contracts and site delivery protocol is provided to DOE in attachments folder. Response to Review 1: The construction contract date has been corrected in PD and timeline.	Review 1 Earliest construction contract was signed between Ark Enerji and MSK Construction on 08/05/2013. In PD, site delivery date is stated as construction contract date. Please revise. Not closed. Review 2 Corrected. Closed.

* CAR= Corrective Action Request, FAR= Forward Action Request, CL= Clarification Request

Draft Report Clarifications, Forward Action and Corrective Action Requests by Validation Team	Ref. to Checklist Questions in Table-1	Summary of Project Participants' Response	Validation Team Conclusion
CL2 Please provide a table for IRR inputs. Table should have columns of IRR input/value/reference document/document date. All costs and IRR inputs like interest rate etc. shall be reproducible by DOE.	T1 2.5.13	IRR inputs table has already been added on VCS PDD (Table 6). It has been revised and a letter which include loan conditions will be provided to DOE during the validation. Response to Review 1: The loan conditions proof has been shared with DOE.	Review 1 Table is provided. Please also provide loan agreement when available. Not closed. Review 2 Provided. Closed.
CL3 Yes, the PPs have included fair values of the project activity assets at the end of the assessment period. However, the following clarifications are needed: 1. Please explain the fair value calculation in cell AW68 of the worksheet "Model 46 YRS". 2. Please explain the fair value calculation in cell AW69 of the worksheet "Model 46 YRS".	T1 2.5.39	1. Depreciation of the items and salvage value have been revised and corrected. Also, IRR and sensitivity tables is revised accordingly in VCS PDD 2. The mistake has been corrected. Please see CL3-1.	Review 1 Fair value calculations are corrected and explained sufficiently. Closed.
CL4 Yes, all relevant costs have been included in the calculation of the Equity IRRs. However, the following clarifications are needed: 1. "General production expenses" in Row 38 are calculated as \$1,748,094. However, they are taken as \$1,598,477 in Row 30. Please explain this discrepancy. 2. What are the "Unknown expenses" in Row	T1 2.5.41	1. Renovation cost is added the 'General Production expenses' and it is corrected. 2. If you look the 'Revised Feasibility	Review 1 1. General production expenses calculations are corrected. 2. Unknown expense percentages are explained as the industry norm. 3. Consultancy costs are said to be incurred during the life of the project. Therefore, they are not sunk costs.

* CAR= Corrective Action Request, FAR= Forward Action Request, CL= Clarification Request

Draft Report Clarifications, Forward Action and Corrective Action Requests by Validation Team	Ref. to Checklist Questions in Table-1	Summary of Project Participants' Response	Validation Team Conclusion
57? Please clarify. 3. Is the "Consultancy" cost in Row 59 a sunk cost? Is this cost paid before the start of the project or is it incurred during some part of the project's life? Is this a cost that the project owners must incur regardless of whether the project is started or not? Please clarify. 4. The additional investment cost in Year 37 is shown as \$4,500,000 in cell AM118 of the Model 46 YRS worksheet. On page 23 of the PDD, it is stated that "a reinvestment of USD 6,920,215 is foreseen at the end of year 35". Please provide an explanation for this discrepancy.		Report dated January 2013, pg-361-Tablo 9.4', the unknown costs have been added to the each investment cost. However, it has been indicated a separate cost in Model 46 tab. This cost includes the some unexpected costs for the each investment items. The cost is determined based on the PP's past experiences in hydro projects and it is sum of the %10 of construction cost and %5 of the equipment cost. 3. Since the consultancy cost include the all consultancy services which are determined after the feasibility works completed. Therefore, it is not accepted as a sunk cost. 4. The re-investment cost has been corrected in cash flow statement and VCS PD. Investment of the new equipment will be realized end of the 35 years. Therefore, relevant column is corrected as AO118 in Model 46 years worksheet. In addition, the regarding statement has been revised in pg-23 of the VCS PDD.	4. The previous confusion about the reinvestment cost has been corrected. The new investment cost in year 35 is equal to the same type of cost incurred in years 2 and 3. The new cost has also been reflected in the depreciation expense calculations. Closed.
CL5 Please provide a document showing the share of Tepekisla Loan in total Sanko Loan and		The project owner will be provided the regarding document to DOE during the	Review 1 Not provided. Not closed.

Draft Report Clarifications, Forward Action and Corrective Action Requests by Validation Team	Ref. to Checklist Questions in Table-1	Summary of Project Participants' Response	Validation Team Conclusion
provide evidence for related IRR inputs (loan amount, interest rate etc).		validation process. Response to Review 1: The loan conditions document has been shared with DOE. Libor rate has been revised in line with the loan conditions. 3 months libor rate is used. (IRR excel and sensitivity tables in PD is revised)	Review 2 Provided. Closed.
CL6 Please provide evidence for reservoir area.		Please see 'TEPEKIŞLA BARAJI VE HES GÖL ALANI.pdf' document in attachments folder.	Review 1 Provided. Closed.
CL7 Please provide information in PD about expropriation and land ownership. Please provide permits from motorways, forestry and treasury.		Please see 'Permits' folder under the attachments.	Review 1 Permits provided. Closed.
CL8 Please clarify how prior consideration is shown in PD.		As the project activity is a VCS project, the early consideration is not required. Therefore, prior consideration has been removed from table 9 and regarding table name has been revised.	Review 1 OK. Closed.

ANNEX 2: VALIDATION TEAM AND ITR COMPETENCE

Fikriye Seda YÜCEL, B.Sc. in Chemical Engineering has completed her M.Sc. degree in Istanbul Technical University in Energy Science and Technology. She is an auditor and trainer for ISO 50001 and auditor for ISO 14001 and has about 2 years of experience in management systems and 7 years of experience in energy management in industry. She has been involved in more than 40 CDM, GS and VCS projects as a team leader/validator/verifier/trainee validator/verifier especially in the energy sector. She has been working as voluntary market projects' team leader/validator/verifier and CDM validator/verifier under observation in the context of re-consult.

Seza DANISOGLU holds a B.Sc. degree in Management from Middle East Technical University in Ankara, Turkey. She also has M.Sc. in Business Statistics and Ph.D. in Finance degrees from Texas Tech University in Lubbock, Texas, USA. She is employed as an assistant professor of finance at the Middle East Technical University. She conducts academic research in the areas of investments and banking, teaches courses in Financial Management, Financial Derivatives and Microeconomics and is also employed as a visiting professor by the Texas Tech University during summer semesters. She has been working as a contracted financial expert in the context of re-consult.

Anıl SÖYLER, Bsc. in Environmental Engineering, has completed his Bachelor degree in Middle East Technical University, Turkey. His Master study in the same field is at thesis stage and has 9 years of professional experience in environmental management, monitoring and auditing, waste and waste water management, environmental and social impact assessment, control of greenhouse gas emissions, environmental reports, and quality management systems. He has been involved in both national and international projects supported by IFC and World Bank. He has been working as Certification Manager in the context of re-consult.

Praveen PYATA, has B.Sc in Biology and Chemistry from Osmania University and M.Sc in Environmental Science and Technology from Jawaharlal Nehru Technological University in India. He is a certified lead auditor for ISO 14001 and OSHAS 18001; he also successfully completed training modules A, B & C: Foundation in Corporate Responsibility, Stakeholder Engagement and Sustainability Reporting and Module D: Sustainability Assurance Practitioner Training. He has more than twelve years of work experience, initially for six years he worked on waste-to-energy, renewable energy, livestock-agro waste management projects in India supported by UNDP/GEF, Ministry of New and Renewable Energy. Later at TUV SUD he was CDM divisional in charge for South Asia region and until now he was involved in more than 100 CDM, PoA, and Gold Standard, VCS, VER projects as a team leader/technical reviewer / validator / verifier covering the sectoral scopes 1, 13 and 15. He has been working as a team leader, technical reviewer and biomass and renewable energy expert in the context of re-consult.

Annex 2-1: Appointment Certificates

re-consult Rüzgar Enerji Danışmanlık İç ve Dış Tic. Ltd. Şti. Bağış Plaza Muharir Yarıncıoğlu Cad. 43/11 TR / 06520 Bağıt-Ankara Tel: 0090-312-287 51 22 Fax: 0090-312-287 33 73	Certificate of Appointment	
	Carbon Department	

This Certificate of Appointment is given to **Mrs. Seda YÜCEL** as a confirmation of compliance with internal qualification requirements as follows:

Clean Development Mechanism				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
15-12-2014	15-12-2014	15-12-2014	N/A	15-12-2014

Verified Carbon Standard, Gold Standard, World Commission on Dams, Social Carbon				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
15-12-2014	15-12-2014	15-12-2014	N/A	15-12-2014

Speciality	Regional expertise	Financial expertise	Technical area
N/A	6 and 8	N/A	1.2

Within the scope and in strict accordance to the appointment indicated above, the bearer can:

1. Participate in the assessments conducted by Re-consult Ltd.
2. Take the roles within and outside of the assessment team
3. Bring specific expertise to the assessments

This Certificate of Appointment is valid unless there are changes in the related requirements for the qualification and appointment and/or the personnel's work agreement is terminated and there is no defined validity period for this Certificate.

However, The Certificate may be updated, suspended or cancelled at any time, as a result of the performance assessments and/or other reasons as defined above.

APPOINTMENT IS GRANTED BY			
Mr. Anıl SÖYLER	Certification Manager	15-12-2014	
Name	Position	Date	Signature

R4C-001 / 06.08.2014 - 07



re-consult Rüzgar Enerjisi Danışmanlık İç ve Dış Tic. Ltd. Şti. Bagi's Plaza Muhsin Yazıcıoğlu Cad. 43/11 TR / 06520 Balgat-Ankara Tel.: 0090-312-287 51 22 Fax: 0090-312-287 33 73	Certificate of Appointment	 quality in carbon auditing
	Carbon Department	Page: 1/1

This Certificate of Appointment is given to **Ms. Seza DANIŞOĞLU** as a confirmation of compliance with internal qualification requirements as follows:

Clean Development Mechanism				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
N/A	N/A	N/A	N/A	20-05-2014

Verified Carbon Standard, Gold Standard, World Commission on Dams, Social Carbon				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
N/A	N/A	N/A	N/A	20-05-2014

Speciality	Regional expertise	Financial expertise	Technical area
Finance	Worldwide	20-05-2014	N/A

Within the scope and in strict accordance to the appointment indicated above, the bearer can:

1. Participate in the assessments conducted by Re-consult Ltd.
2. Take the roles within and outside of the assessment team
3. Bring specific expertise to the assessments

This Certificate of Appointment is valid unless there are changes in the related requirements for the qualification and appointment and/or the personnel's work agreement is terminated and there is no defined validity period for this Certificate. However, The Certificate may be updated, suspended or cancelled at any time, as a result of the performance assessments and/or other reasons as defined above.

APPOINTMENT IS GRANTED BY			
Mr. Anıl SÖYLER	Certification Manager	20-05-2014	
Name	Position	Date	Signature

re-consult Rüzgar Enerji Danışmanlık İç ve Dış Tic. Ltd. Şti Bagi's Plaza Muharrem Yazıcıoğlu Cad. 43/11 TR / 06520 Beştepe-Ankara Tel.: 0090-312-287 51 22 Fax: 0090-312-287 33 73	Certificate of Appointment	re-consult quality in carbon auditing 
	Carbon Department	Page: 1/1

This Certificate of Appointment is given to **Mr. Anıl SÖYLER** as a confirmation of compliance with internal qualification requirements as follows:

Clean Development Mechanism				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
Under observation 15-09-2014	Under observation 15-09-2014	N/A	N/A	15-09-2014

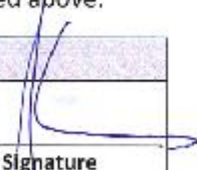
Verified Carbon Standard, Gold Standard, World Commission on Dams, Social Carbon				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
15-09-2014	15-09-2014	15-09-2014	N/A	15-09-2014

Speciality	Regional expertise	Financial expertise	Technical area
N/A	6,8 and 15	N/A	1.2

Within the scope and in strict accordance to the appointment indicated above, the bearer can:

1. Participate in the assessments conducted by Re-consult Ltd.
2. Take the roles within and outside of the assessment team
3. Bring specific expertise to the assessments

This Certificate of Appointment is valid unless there are changes in the related requirements for the qualification and appointment and/or the personnel's work agreement is terminated and there is no defined validity period for this Certificate. However, The Certificate may be updated, suspended or cancelled at any time, as a result of the performance assessments and/or other reasons as defined above.

APPOINTMENT IS GRANTED BY			
Mr. Christian JOHANNES	General Manager	15-09-2014	
Name	Position	Date	Signature

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re-consult Ruzgar Enerjisi Danışmanlık İç ve Dış Tic. Ltd. Şti. Bağış Plaza Muhşin Yazıcıoğlu Cad. 43/11 TR / 06520 Bağış-Ankara Tel: 0090-312-287 51 22 Fax: 0090-312-287 33 73	Certificate of Appointment	re-consult QUALITY IN CARBON BUSINESS 
	Carbon Department	Page: 1/1

This Certificate of Appointment is given to **Mr. Praveen PYATA** as a confirmation of compliance with internal qualification requirements as follows:

Clean Development Mechanism				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
10-07-2014	10-07-2014	10-07-2014	10-07-2014	10-07-2014

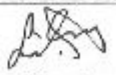
Verified Carbon Standard, Gold Standard, World Commission on Dams, Social Carbon				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
10-07-2014	10-07-2014	10-07-2014	10-07-2014	10-07-2014

Speciality	Regional expertise	Financial expertise	Technical area
N/A	3, 5, 6, 8, 10, 11, 12, 15, 18	10-07-2014	1.1 and 1.2

Within the scope and in strict accordance to the appointment indicated above, the bearer can:

1. Participate in the assessments conducted by Re-consult Ltd.
2. Take the roles within and outside of the assessment team
3. Bring specific expertise to the assessments

This Certificate of Appointment is valid unless there are changes in the related requirements for the qualification and appointment and/or the personnel's work agreement is terminated and there is no defined validity period for this Certificate. However, The Certificate may be updated, suspended or cancelled at any time, as a result of the performance assessments and/or other reasons as defined above.

APPOINTMENT IS GRANTED BY			
Mr. Anıl SÖYLER	Certification Manager	10-07-2014	
Name	Position	Date	Signature

R-E-C-029 / 31.03.2015 - 02

