

GEZIN SOLAR POWER PROJECT VALIDATION REPORT



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Summary:

Re Carbon Ltd. has performed the VCS validation of the Gezin Solar Power Project (Gezin SPP) in Turkey between 05/12/2018 and 01/10/2019.

Gezin SPP involves installation and operation of 4 unlicensed (GEZİN 3, GEZİN 4, GEZİN 5 and Solarges) solar power projects and the total capacity of the project is 3.83 MWe. During the first crediting period which is 10 years, the project is expected to reduce 3,952 tons of CO₂ annually.

The purpose of this validation activity is to determine whether the project complies with the applicable rules and regulations and to see whether the project can be eligible to be a VCS project activity.

The scope of the validation is the independent and objective review of the VCS-PD against the relevant criteria. The main focus of the validation team is to identify the significant risks for the project implementation and the generation of VERs.

The validation was performed on the basis of VCS criteria, Host Party criteria as well as the criteria of Clean Development Mechanism methodologies and tools. A site visit was performed on 11/12/2018. During the validation 23 CARs, 13 CLs and 1 FAR were raised. All of which have resolved before the end of the validation.

The review of the Project Description (VCS-PD) and the subsequent follow-up interviews have provided Re Carbon Ltd. with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant VCS requirements. Therefore, Re Carbon Ltd. recommends the project for registration by the VCS Program.

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1 INTRODUCTION

1.1 Objective

Re Carbon Ltd. has been appointed by “Lahit Elektrik Üretim A.Ş.” to perform the validation of the “Gezin SPP” in Turkey with the contract dated 29/06/2018. 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 “AMS I.D.: Grid connected renewable electricity generation--- Version 18.0”
- the project's monitoring plan is assessed against “AMS I.D.: Grid connected renewable electricity generation--- Version 18.0”
- the project's additionality justification is assessed against “Tool for the demonstration and assessment of additionality, Version 07.0”
- the projects 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 for Project Activities version 2.0
- CDM Project Standard for Project Activities version 2.0
- CDM Project Cycle Procedure for Project Activities version 2.0
- VCS Standard version 3.7
- VCS Program Guide version 3.7

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 emission reductions (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 CDM Validation and Verification Standard for Project Activities version 2.0, CDM Project Standard for Project Activities version 2.0, CDM Project Cycle Procedure for Project Activities version 2.0 and VCS version 3.7.

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 Carbon Ltd. 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

Level of assurance of the validation report is defined as reasonable based on the handled validation process through the document review, site visit and the interviews.

1.4 Summary Description of the Project

Lahit Elektrik Üretim A.Ş. plans to install a solar power plant (Gezin SPP) is located in Maden district of Küçükova village, in Elazığ province of Turkey. Gezin SPP involves installation and operation of 4 unlicensed projects (Gezin 3, Gezin 4, Gezin 5 and Solarges projects). The project will have CSUN270-60P Polycrystalline PV Modules and the total capacity of the project will be 3.83 MWe. The total numbers of PV modules of Gezin 3, Gezin 4 and Gezin 5 projects are 4334, 4312 and 4312, respectively.

GEZİN 3, GEZİN 4 and GEZİN 5 projects are in operation and Solarges project has the necessary permissions and is under project development phase. GEZİN 3, GEZİN 4 and GEZİN 5 projects were in fully operational and started to produce electricity on 15/01/2018. The project fits in sectoral scope 1: Energy Industries -Renewable Energy category.

It is estimated that the electricity production of the proposed project is going to be 6,963 MWh/year. Since the project activity is a renewable energy project, it reduces greenhouse gases (GHGs) emissions that would have otherwise occurred in the absence of the project activity by avoiding electricity generation from fossil fuel sources. 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. However, in the project scenario, the project will generate electricity from solar power and will result in emission reductions in parallel with its electricity generation figures. The average annual emission reductions of the proposed project for the crediting period are estimated to be 3,952 tonnes of CO₂e (tCO₂e). The emission reduction calculations were validated by the VVB via a detailed review of the baseline calculation Excel sheets.

2 VALIDATION PROCESS

Re Carbon Ltd. has performed the validation of the “Gezin Solar Power Project (Gezin SPP)” in Turkey between 05/12/2018 and 02/10/2019. 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 as detailed in below.

2.1 Method and Criteria

The scope of the validation is the independent and objective review of the VCS PD, the baseline calculations and the IRR calculation excel sheet together with the supporting documents that are listed in section 1.6 of this report. This review is done according to rules and regulations set forth in the applied methodology, associated tools, program standards, guidelines and procedures.

During the review, the project’s compliance with the host country’s relevant laws and regulations are also assessed and deemed as appropriate. As the project is a solar power plant, no sampling was deemed necessary and the validation process includes the whole project.

2.2 Document Review

The basis for the validation activity is the PD version 01, dated 04/12/2018 which was submitted to the validation team on 05/12/2018. This PD was revised several times due to the raised CARs and CLs, version 05 dated 30/09/2019 being the final version. The PD was assessed against;

- AMS I.D.: Grid connected renewable electricity generation version 18.0
- Tool for the Demonstration and Assessment of Additionality version 07.0
- Demonstration of Additionality of Small-Scale Project Activities version 12.0
- Demonstration of Additionality of Microscale Project Activities version 09.0
- CDM Validation and Verification Standard version 2.0
- CDM Project Standard version 2.0
- CDM Project Cycle Procedure version 2.0
- VCS Standard version 3.7
- VCS Program Guide version 3.7
- the Host Country criteria

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

Table-1: List of documents reviewed

Document Number	Document Name	Version	Date (dd/mm/yyyy)
D01	PD	01	04/12/2018
D02	PD	02	07/02/2019
D03	PD	03	15/03/2019
D04	ER Calculation Excel Spreadsheet	01	04/12/2018
D05	ER Calculation Excel Spreadsheet	02	07/02/2019
D06	ER Calculation Excel Spreadsheet	03	15/03/2019

Document Number	Document Name	Version	Date (dd/mm/yyyy)
D07	CDM Validation and Verification Standard	02	-
D08	CDM Project Standard	02	-
D09	CDM Project Cycle Procedure	02	-
D10	AMS I.D.: Grid Connected Renewable Electricity Generation	18.0	-
D11	Demonstration of Additionality of Small-Scale Project Activities	12.0	-
D12	Demonstration of Additionality of Microscale Project Activities	9.0	-
D13	VCS Standard	3.7	-
D14	VCS Program Guide	3.7	-
D15	Gezin 3 Project Provisional Acceptance Protocol	-	12/01/2018
D16	Gezin 4 Project Provisional Acceptance Protocol	-	12/01/2018
D17	Gezin 5 Project Provisional Acceptance Protocol	-	12/01/2018
D18	Gezin 3 Project Call Letter	-	15/04/2016
D19	Solarges Project Call Letter	-	18/01/2018
D20	Gezin 3, 4 ve 5 Projects EIA Decision (Out of Scope)	-	13/08/2015
D21	Solarges Project EIA Decision (Out of Scope)	-	22/06/2017
D22	Initial Meter Test Reports (Gezin 3, Gezin 4 and Gezin 5 Projects)	-	11/01/2018
D23	KACO Blueplanet 50.0 TL3 M1 Inverter Technical Brochure	-	-
D24	CSUN275-60P PV Module Technical Brochure	-	-
D25	Title Deed Registry Records (Gezin 3, 4 ve 5 Projects)	-	27/09/2017
D26	Gezin 3, 4 and 5 Projects' Technical Assessment Reports	-	09/08/2016
D27	Gezin 3 Project Distribution System Connection Agreement	-	24/04/2017
D28	Gezin 4 Project Distribution System Connection Agreement	-	24/04/2017
D29	Gezin 5 Project Distribution System Connection Agreement	-	24/04/2017
D30	Letter by the Village Head (Mukhtar) (About the Contact Details of PP Relevant Staff In case of Any Complaint)	-	27/02/2019
D31	Letter by the PP (About Double Counting)	-	28/01/2019
D32	Social Security Records of PP Site Employees	-	-
D33	Site Visit Photos	-	11/12/2018
D34	Initial Meter Test Report (Solarges Project)	-	10/06/2019
D35	Solarges Project Provisional Acceptance Protocol		11/06/2019
D36	Solarges Project Distribution System Connection Agreement	-	13/04/2018
D34	PD	04	19/07/2019
D35	PD	05	30/09/2019

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 below:

Table-2: List of persons interviewed

Reference Number	Means of Interview ¹	Full Name	Title	Organization
I01	SV	Farız TAŞDAN	Company Shareholder	Lahit Elektrik Üretim A.Ş.
I02	SV	Serhan BOZKURT	Electricity Technician	Lahit Elektrik Üretim A.Ş.
I03	SV	Enver KARA	Security Staff (Local)	Petrojes Elektrik Üretim A.Ş.
I04	SV	Hanifi KARA	Security Staff (Local)	Petrojes Elektrik Üretim A.Ş.
I05	SV	Kerem Ziya AKDEMİR	Consultant	Life İklim ve Enerji Ltd. Şti.
I06	SV	Celal ŞİMŞEK	Muhktar (Village Head)	Küçükova Village
I07	SV	Kerim KARA	Villager	Küçükova Village

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-3 below:

Table-3: Site visit details

Date	11/12/2018	
Location	Elazığ	
Participant	Company Name	Role in the Organization / Role in the Site Visit
Farız TAŞDAN	Lahit Elektrik Üretim A.Ş.	Company Shareholder
Serhan BOZKURT	Lahit Elektrik Üretim A.Ş.	Electricity Technician
Enver KARA	Petrojes Elektrik Üretim A.Ş.	Security Staff (Local)
Hanifi KARA	Petrojes Elektrik Üretim A.Ş.	Security Staff (Local)
Kerem Ziya AKDEMİR	Life İklim ve Enerji Ltd. Şti.	Consultant
Celal ŞİMŞEK	Küçükova Village	Muhktar (Village Head)

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

Kerim KARA	Küçükova Village	Villager
Points Verified	Source of Information	
Implementation and operation of the proposed CDM project activity as per the registered PDD	Document review, site visit and interviews	
Review of information flows for generating, aggregating and reporting the monitoring parameters	Document review, site visit and interviews	
Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD	Interviews	
Cross-check between information provided in the monitoring report and data from other sources such as plant log books, inventories, purchase records or similar data sources	Document review and site visit	
Check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PDD and the selected methodology	Document review, site visit and interviews	
Review of calculations and assumptions made in determining the GHG data and emission reductions	Document review	
Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters	Document review and interviews	

2.5 Resolution of Findings

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

- Assessment whether the project design of the proposed VCS project activity meets the relevant VCS requirements, via a desk review of the PD between 05/12/2018 and 26/07/2019.
- Assessment of the stakeholders' comments and how these comments are implemented in the PD.
- Assessment whether the applied methodology AMS I.D.: Grid connected renewable electricity generation--- Version 18.0" 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 the "Demonstration of Additionality of Small-Scale Project Activities version 12.0" and "Demonstration of Additionality of Microscale Project Activities version 09.0" is correctly applied.
- A site visit was conducted on 11/12/2018 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-4 below:

Table-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-5 below:

Table-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 Carbon Ltd. internal terminology and VCS Version 3.7, 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 23 CARs, 13 CLs and 1 FAR 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 26/02/2018 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-6 below:

Table-6: Validation team and ITR details

Name	Role	Host Country Experience	Scope Coverage	Technical Expertise	Financial Expertise	Involv.
Anil SÖYLER	Team Leader	☒	☒	☒	N/A	DR, SV, A, R
Sukanta DAS	ITR	☒	☒	☒	N/A	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

2.5.1 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 1.9.

According to these principles, there has been 1 FAR as indicated in the in the Validation Protocol.

3 VALIDATION FINDINGS

The validation findings have been detailed throughout the validation report and Annex-1 Validation Protocol.

3.1 Project Details

Lahit Elektrik Üretim A.Ş., Petrojes Elektrik Üretim A.Ş. and Solarges Elektrik Üretim A.Ş. install a solar power plant (Gezin SPP) located in Maden district of Küçükova village, in Elazığ province of Turkey and Lahit Elektrik Üretim A.Ş. is the bundling agency of the project. The project ownerships have been confirmed through the provided call letters and connection to distribution system agreements. Life İklim ve Enerji Ltd. Şti, is the other entity involved in the project as a project consultant as indicated in the PD.

Gezin SPP involves installation and operation of 4 unlicensed projects (Gezin 3, Gezin 4, Gezin 5 and Solarges projects). Gezin-3, Gezin-4 and Gezin-5 projects have CSUN270-60P Polycrystalline PV Modules whereas Solarges project has Schmid Pekintas SPE275-P60 PV modules and the total capacity of the project will be 3.83 MWe. The total numbers of PV modules of Gezin 3, Gezin 4, Gezin 5 and Solarges projects are 4334, 4312, 4312 and 3630, respectively. The project scale is project in line with VCS rules and requirements due to its total capacity (3.83 MWe) and since the project is a greenfield project activity, pre-project conditions are same with the baseline scenario as discussed in the Section 3.2.4 of the validation report.

The project start date of the project activity is the initial date of selling of the produced electricity which is 15/01/2018 and the project is in compliance with the Turkish regulations. The crediting period of the project activity is renewable crediting period of 10 years 0 month which can be renewed two times. The estimated electricity generation of the proposed project is 6,963 MWh/year with an expected annual emission reduction of 3,952 tonnes of CO₂.

The proposed project's net GHG emission reductions or removals will neither be used for compliance with an emissions trading program or to meet binding limits on GHG emissions, nor for other forms of environmental credit. The project has neither been registered, nor is seeking registration under any other GHG programs other than VCS under VER scheme.

Besides that, there hasn't been any stated commercially sensitive information by the PP.

Through document review and interview during site-visit, Re Carbon Ltd. confirms that the description provided 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

The project activity applies approved consolidated baseline and monitoring methodology "AMS I.D.: Grid connected renewable electricity generation Version 18.0" and the associated tools:

- "Tool for the Demonstration and Assessment of Additionality version 07.0 "
- "Tool to Calculate the Emission Factor for an Electricity System version 07.0"
- "Demonstration of Additionality of Small-Scale Project Activities version 12.0" and
- "Demonstration of Additionality of Microscale Project Activities version 09.0"

According to AMS I.D. version 18.0, the latest approved tools shall be referenced in the PD like, “Tool to calculate the emission factor for an electricity system” (Version 05), “Tool for the demonstration and assessment of additionality” (Version 07.0.0), “Demonstration of Additionality of Small-Scale Project Activities version 12.0” and “Demonstration of Additionality of Microscale Project Activities version 09.0” which are the latest versions of the mentioned tools valid at the starting time and the above tools are applied to the VCS-PD.

3.2.2 Applicability

Re Carbon Ltd. has assessed the relevant information contained in the VCS-PD, on-site visit and evidence obtained against the application criteria listed in the methodology. The applicability of this methodology is justified as below:

- The proposed project activity (Gezin SPP) is a greenfield, renewable (solar power) electricity generation project, connected to the Turkish national grid,
- The project activity is the installation of solar PV power plant
- The project does not involve capacity addition, a retrofit of (an) existing plant(s) or a replacement of (an) existing plant(s)
- Project activity does not involve switching from fossil fuels to renewable energy sources at the site of project activity
- The project does not involve combined heat and power generation activity
- The geographic and system boundaries for the Turkish national electricity grid can be clearly identified and information on the characteristics of the grid is available.

Therefore, Re Carbon Ltd. confirms that the selected baseline and monitoring methodology is applicable to the project activity, and this version will be valid at the time of submitted of the project activity for registration.

3.2.3 Project Boundary

As clearly defined in the VCS-PD, the project boundary encompasses the physical, geographical site of the renewable generation source. The solar PV power plant with all installation is the project boundary and this had been validated during the on site visit.

The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system that the VCS project power plant is connected to as clearly defined in the applied methodology.

As the project activity is connected to Turkish national grid, the baseline boundary is defined as the Turkish national grid. This includes the project site and all power plants connected physically to the Turkish national grid and there are no off-grid power plants in Turkish grid.

The baseline emission source is CO₂ and fossil fuels fired for electricity generation cause CO₂ emissions which is the main source. It is included to baseline calculation to find the displaced amount by the project activity. The other sources and gases are minor sources and excluded due to the simplification in line with the applied methodology.

The project activity is greenfield solar power plant project, so there hasn't been any project emissions and sources, reservoirs and gas in line with the applied methodology.

As a result, Re Carbon Ltd. confirms that the project boundary and associated GHG sources have been clearly and correctly identified in the PD by the PP.

3.2.4 Baseline Scenario

As per AMS I.D. version 18.0, if the project activity is the installation of a greenfield power plant, 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 version 07.0”.

As the methodology directly states the baseline scenario, there is no need to carry out further analyses.

As the project is an electricity generation from renewable source, the methodology and the related baseline scenario is applicable and VCS-PD clearly states the baseline scenario as is stated by the methodology. The most recent details are also provided in the VCS PD regarding the Turkish electricity grid.

Based on the site-visit and by cross-checking the information with similar relevant projects, in addition to the validation team’s local and sectoral knowledge, it is confirmed that the selected baseline scenario is the prevailing practice in the host country and in line with the host country regulations.

3.2.5 Additionality

The project is automatically additional in line with the Article 11-a of “Demonstration of Additionality of Small-Scale Project Activities version 12.0” and “Demonstration of Additionality of Microscale Project Activities version 09.0” since the project activity includes grid connected solar PV technologies and there is no need to have further additionality assessment.

The capacity of the project activity (3.83 MWe) has been checked through the document review and on-site visit observations.

3.2.6 Quantification of GHG Emission Reductions and Removals

The emission reduction calculation estimations have been included in the VCS-PD in line with the latest approved version of the methodology AMS I.D. version 18.0. The baseline emissions are calculated based on the combined emission factor multiplied by the expected net electricity generation, which amounts to 6,963 MWh per annum.

For calculation of the emission factor of Turkish Grid, “Tool to Calculate the Emission Factor for an Electricity System, version 07.0”, has been used.

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 07.0”. The steps of the tool are implemented as below:

Step 1: Turkish national grid is identified as the relevant electric power system

Step 2: Only grid power plants are included in the calculation (there are no off-grid power plants in Turkey).

Step 3: The operating margin ($EF_{grid, OM, y}$) 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. As average share of low cost resources for the last five years is far below 50% (28,70%), the simple OM method is applicable to calculate the operating margin emission factor ($EF_{grid, OM, y}$).

Under the simple OM method, the ex-ante approach is selected. Data for calculating the three year average is obtained from the period 2015-2017 which are the most recent data available at

the time of submission of the VCS-PD to VVB. Low cost/must run resources and the equations used are provided in the VCS-PD.

Step 4: $EF_{grid, OM, y}$ has been calculated using option B which is 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 ($FC_{i,y}$) and heating values of fuels are taken from website of TEIAS, the official source of related data. The NCV of the fuels ($NCV_{i,y}$) consumed have been calculated using data from the TEIAS web page. The emission factors required for calculation of CO_2 emission factor 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. Therefore, $EF_{grid, OM, y}$ is calculated as 0.6601 tCO₂/MWh.

Step 5: Option1 is chosen to calculate the build margin emission factor. The build margin emission factor ($EF_{grid, BM, y}$) is based on the most recent information available on units already built at the time of submission of the VCS-PD to the VVB. AEGSET->20% is selected as SETsample because the set of power units comprises the larger annual electricity generation. The build margin emission factor is calculated as the generation-weighted average emission factor of a sample of power plants “m” for a specific year. There is no official data available on plant-based annual electricity production for years 2013, 2014, 2015, 2016 and 2017. The most recent official data available on plant-based annual electricity production belongs to year 2012. In order to update the BM to the year 2017, the only data which can be used to estimate the annual production is the installed capacity of plants. It is assumed that every power plant operates with full capacity all around the year in order to tackle this data problem. According to the CDM-EB-approved deviation, in the absence of annual production data use of weights estimated using installed capacity in place of annual electricity generation is permitted. Based on that approach, $EF_{grid, BM, y}$ is calculated as 0.290 tCO₂/MWh.

Step 6: The combined margin emission factor ($EF_{grid, CM, y}$) has been calculated using the default values of 0.75 and 0.25 for OM and BM, respectively and the $EF_{grid, CM, y}$ is calculated as 0.5676 tCO₂/MWh.

There are no project or leakage emissions associated with solar power projects. Thus, the emission reductions correspond to the baseline emissions and the project is expected to result in an average emission reduction of 3,952 tCO₂e/year during the first crediting period.

3.2.7 Methodology Deviations

No methodology deviations have been applied to the project.

3.2.8 Monitoring Plan

According to AMS I.D. version 18.0., only parameter required to be monitored is “net electricity supplied by the proposed project to the grid in year y, $EG_{facility, y}$ ” which will be continuously measured and recorded at least monthly.

Net electricity generation will be based on measured value of electricity export and import and recorded via meters sealed by Firat EDAS (the distribution company for Gezin SPP) for billing purposes therefore no new additional protocol will be needed for monitoring emission reduction. The site electricity technician will be responsible for the electricity generated, gathering all relevant data and keeping the records.

There are eight electricity meters installed in total. That means, four main meters and four back up meters for cross-checking among eight electricity meters. All meters are inspected and sealed by Firat EDAS before the commissioning of the power plant in order to be protected from

interference by any of the parties and the relevant information about the electricity meters including the serial numbers have been provided by the PP. Installation of the meters and data monitoring will be carried out according to the Regulation on Unlicensed Electricity Production under Electricity Market by Fırat EDAS which will record the meter readings via OSOS system and through remote reading.

All data will be kept for at least two years after the crediting period for QA/QC purposes. The calibration and maintenance of the meters will be carried out in line with the “Regulation of Metering and Testing of Metering Systems”. The meters will be calibrated by Fırat EDAS when there is an inconsistency between main and back-up meters.

Re Carbon Ltd. can confirm that the list of parameters that need to be monitored ex post is complete and consistent with the relevant applied methodology which is AMS I.D. version 18.0.

By document review and on-site visit interviews, it is also confirmed by the validation team that the monitoring plan can be properly implemented, 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 emission reductions to be achieved by the project activity can be properly reported and verified.

3.3 Non-Permanence Risk Analysis

Not Applicable.

4 SAFEGUARDS

4.1 No Net Harm

There is only one possible identified negative environmental impact associated with the project and this has been determined as the amount of avoided wastewater discharged to the environment. The mentioned parameter will be monitored through the records of transfer of wastewater by sewage truck during the verification stage.

4.2 Environmental Impact

According to the relevant Environmental Impact Assessment Regulation, an Environmental Impact Assessment is not required for Gezin SPP. The official letters from Provincial Directorate of Environment and Urbanization confirming non-applicability of this regulation and approved out of scope document has been provided to VVB.

4.3 Local Stakeholder Consultation

The project has received the out of scope document in line with the relevant Environmental Impact Assessment Regulation and stakeholder consultation meeting isn't mandatory to be held in line with the same regulation.

During the validation site visit, the validation team interviewed some local stakeholders from Küçükova village, the closest village to the project site, and there hadn't been any complaint by the interviewed local stakeholders. There are also some local stakeholders working within the context of the project activity as indicated in the Section 1.8 of the validation report.

Besides that, there is provided signed and sealed letter by Küçükova village Mukhtar (Head) confirming that the contact details of PP site representative is available and can communicate with him if there is any complaint and comment by Küçükova Village residents. The evidences regarding the announcements and communication with Küçükova Village residents about the project and confirmation letter by the Mukhtar that there hasn't been any complaint and dated as 18/09/2019 have been provided to VVB.

4.4 Public Comments

No comment was received in line with information submitted by the project proponent.

5 VALIDATION CONCLUSION

Re Carbon Ltd. has performed the validation of the “Gezin Solar Power Project (Gezin SPP)” in Turkey between 05/12/2018 and 26/07/2019. 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 “Anıl SÖYLER as team leader and Sukanta DAS as Internal Technical Reviewer”, and the project activity was checked against the applicable rules and regulations of CDM including CDM Validation and Verification Standard version 2.0, CDM Project Standard version 2.0 and CDM Project Cycle Procedure version 2.0 and VCS version 3.7.

Re Carbon Ltd. hereby confirms that the proposed project activity “Gezin SPP” in Turkey, has applied all relevant applicable guidance documents 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 3,952 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 Carbon Ltd. concludes that the proposed project activity “Gezin SPP” in Turkey, as described in the PD, version 05 dated 30/09/2019.

- meets all relevant Host Country criteria;
- meets all relevant requirements of the VCS project activities [including VCS Version 3.7, 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 “AMS I.D.: Grid connected renewable electricity generation” version 18.0;
- its automatical additionality is sufficiently justified in the PD;
- is likely to achieve estimated emission reductions;

Therefore, Re Carbon Ltd. requests the registration of the proposed project activity as a VCS project activity.



Anıl SÖYLER
Team Leader
01/10/2019



Sukanta DAS
ITR
01/10/2019



Anıl SÖYLER
Certification Manager
01/10/2019

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 3.7	DR	Yes, they are in Arial 10 and regular font.	OK	OK
2. Are the followings provided at the cover page in a tabular format?	VCS Std. Version 3.7	DR	Yes, they have been provided at the cover page in the tabular format.	OK	OK
2.1. Name of the project?	VCS Std. Version 3.7	DR	Yes, it has been provided at the cover page in the tabular format.	OK	OK
2.2. Version number of the VCS PD?	VCS Std. Version 3.7	DR	Yes, it has been provided at the cover page in the tabular format.	OK	OK
2.3. The date of the document issued in DD-Month-YYYY format?	VCS Std. Version 3.7	DR	Yes, it has been provided at the cover page in the tabular format.	OK	OK
2.4. Individual or entity that prepared the document?	VCS Std. Version 3.7	DR	Yes, it has been provided at the cover page in the tabular format.	OK	OK
2.5. Physical address, telephone, email, website?	VCS Std. Version 3.7	DR	Yes, it has been provided at the cover page in the tabular format.	OK	OK
3. Is this box available on the title page of the final document?	VCS Std. Version 3.7	DR	Yes, the box has been provided at the cover page.	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 3.7	DR	Yes, it has been prepared by using the latest template.	OK	OK
5. Are the VCS PD and other documents required under the VCS Program in English?	VCS Std. Version 3.7	DR	Yes, they have been provided in English.	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. Is there "Table of Contents" in the PD?	VCS Std. Version 3.7	DR	Yes, Table of Content is available in the PD.	OK	OK
7. Is the project listed on VCS project pipeline?	Registration and Issuance Process Procedure Version 3.8 Section 3	DR	Please provide the relevant link proving that project is listed on VCS project registry.	CAR-1	OK
1. PROJECT DETAILS					
1.1. Summary Description of the Implementation Status of the Project					
1.1.1. Does section 1.1 of the VCS PD include the following?	VCS Std. Version 3.7	DR	Please see in below.	OK	OK
1.1.1.1. A summary description of the technologies/measures to be implemented by the project.	VCS Std. Version 3.7	DR	a) The summary description of technologies/measures to be implemented by the project hasn't been provided in Section 1.1 of the PD. b) Please include the relevant evidences about the actual capacity of the project activity including the correlation between MWp and MWe. c) The figure and table numbers aren't available in whole PD.	CAR-2	OK
1.1.1.2. The location of the project.	VCS Std. Version 3.7	DR	No, the location of the project hasn't been provided in Section 1.1 of the PD.	CAR-3	OK
1.1.1.3. An explanation of how the project is expected to generate GHG emission reductions or removals.	VCS Std. Version 3.7	DR	Yes, the explanation of how the project is expected to generate GHG emission reductions or removals has been provided.	OK	OK
1.1.1.4. A brief description of the scenario existing prior to the implementation of the project.	VCS Std. Version 3.7	DR	No, the brief description of the scenario existing prior to the implementation of the project hasn't been provided in Section 1.1 of the PD.	CAR-4	OK
1.1.1.5. An estimate of annual average and total GHG emission reductions and	VCS Std.	DR	Yes, the estimate of annual average and total GHG emission	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
removals.	Version 3.7		reductions and removals has been provided.		
1.1.2. Is the purpose of the project activity described including how it contributes to the sustainable development of the Host Party?	CDM-PDD-FORM version 8.0 EB93 Report Annex 4 §36c	DR	Yes, the purpose of the project activity has been provided.	OK	OK
1.1.3. Has the VCS PD been prepared in accordance with the latest guidelines for completing the VCS PD?	VCS Std. Version 3.7	DR	Yes, the PD has been prepared by using the latest template.	OK	OK
1.2. Sectoral Scope and Project Type					
1.2.1. Is this a grouped project?	VCS Std. Version 3.7	DR	No, this isn't a grouped project and this has been indicated in the Section 1.2 of PD.	OK	OK
1.2.2. Is the technical area of the project activity specified?	VCS Std. Version 3.7	DR	Yes, the sectoral scope of the project activity has been specified.	OK	OK
1.2.3. Is the category of the project activity specified?	CDM-PDD-FORM Version 8.0 VCS Version 3.7	DR	Yes, the category of the project activity has been specified.	OK	OK
1.2.4. Is it justified how the proposed project activity conforms to the project category selected?	CDM-PDD-FORM Version 8.0 VCS Std. Version 3.7	DR	Yes, this justification has been provided in the category selected.	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 8.0 VCS Std. Version 3.7	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
1.3. Project Proponent					
1.3.1. Are the contact information for the project proponent(s) provided?	VCS Std. Version 3.7	DR	a) Please include the name and number of project participants clearly throughout the PD including the contact details. b) Please provide the relevant evidence about project ownership as stated in PD.	CAR-5	OK
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 3.7	DR	Yes, the contact details of project consultant have been provided in the PD.	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 3.7	DR	Yes, the project start date has been provided in the PD.	OK	OK
1.5.2. Is the starting date defined in accordance with the relevant guidance?	CDM-PDD-FORM Version 8.0	DR	Please include the justification for the determination of the start date including the relevant evidence.	CL-1	OK
1.5.3. Does the VCS PD include a description on the following?	CDM-PDD-FORM Version 8.0	DR	Please see in below.	OK	OK
1.5.3.1. how this starting date has been determined?	CDM-PDD-FORM Version 8.0	DR	Please see CL-1.	CL-1	OK
1.5.3.2. the evidence available to support this start date?	CDM-PDD-FORM Version 8.0	DR	Please see CL-1.	CL-1	OK

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

Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
1.6. Project Crediting Period					
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 3.7	DR	Yes, the total crediting period including the day, month and year for the start and end dates and the total number of years has been provided but the crediting period hasn't been identified consistently in the PD.	CAR-6	OK
1.7. Project Scale and Estimated GHG Emission Reductions or Removals					
1.7.1. Is the scale of the project (project or large project) indicated?	VCS Std. Version 3.7	DR	The scale of the project hasn't been indicated correctly in the Section 1.7 of the PD.	CAR-7	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 3.7		The estimated annual amount hasn't been indicated in the tabular format for whole crediting period in the Section 1.7 of the PD.	CAR-8	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?	EB93 Report Annex 5 §51	DR	N/A (This is a greenfield project.)	OK	OK
1.8.2. If the proposed project activity includes the alteration of an existing installation or process does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	EB93 Report Annex 5 §51	DR	N/A (This is a greenfield project.)	OK	OK
1.8.3. Does the VCS PD include the following?	CDM-PDD-FORM Version 8.0	DR	Please see in below.	OK	OK
1.8.3.1. The scenario existing prior to the start of the project activity with a list	CDM-PDD-FORM	DR	Yes, the scenario existing prior to the start of the project activity has been defined.	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
of equipment and systems in operation at that time	Version 8.0				
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 8.0	DR	Yes, the list of equipment that will install within the project activity has been provided but please provide the relevant documentary evidence regarding the provided equipment type and number.	CL-2	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 8.0	DR	Yes, baseline scenario has been defined.	OK	OK
1.8.4. Does the description of the scenarios include the following:	CDM-PDD-FORM Version 8.0	DR	Please see in below.	OK	OK
1.8.4.1. A list and arrangement of the main manufacturing / production technologies, systems and equipment involved	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, the list is available.	OK	OK
1.8.4.2. The emission sources and GHGs involved in the project activity, according to the methodology used	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Please provide the emission sources and GHGs involved in the project activity, according to the methodology used.	CL-3	OK
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 3.7 CDM-PDD-FORM Version 8.0	DR	N/A (There hasn't been any modifications and/or installed under the project activity)	OK	OK
1.8.5. Is the lifetime of the project activity(s) indicated?	VCS Std. Version 3.7	DR	Please provide the relevant documentary evidence regarding the lifetime of the project activity.	CAR-9	OK
1.8.6. Has the appropriate and clear evidence been provided regarding the expected	CDM-PDD-FORM	DR	Please see CAR-9.	CAR-9	OK

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

Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
operational lifetime of the project activity?	Version 8.0				
1.9. Project Location					
1.9.1. Is the location and geographical boundary of the project activity clearly identified including:	CDM-PDD-FORM Version 8.0 VCS Std. Version 3.7	DR	Please see in below.	OK	OK
1.9.1.1. Host Party(ies)?	CDM-PDD-FORM Version 8.0 VCS Std. Version 3.7	DR	The village, town, city and Host Party details about the project location have been provided.	OK	OK
1.9.1.2. Region/State/Province etc.?	CDM-PDD-FORM Version 8.0 VCS Std. Version 3.7	DR	The village, town, city and Host Party details about the project location have been provided.	OK	OK
1.9.1.3. City/Town/Community etc.?	CDM-PDD-FORM Version 8.0 VCS Std. Version 3.7	DR	The village, town, city and Host Party details about the project location have been provided.	OK	OK
1.9.1.4. a set of geodetic coordinates.	VCS Std. Version 3.7	DR	a) Please provide the geographic coordinates for Solarges project. b) Please also provide the mentioned reference regarding the coordinates.	CL-4	OK
1.10. Conditions Prior to Project Initiation					
1.10.1. Are the conditions prior to project initiation provided?	VCS Std. Version 3.7	DR	Yes, the pre-project situation has been defined as baseline scenario.	OK	OK
1.10.2. Is it demonstrated that the project has not been implemented to generate GHG emissions for the purpose of their	VCS Std. Version 3.7	DR	Please demonstrate that project has not been implemented to generate GHG emissions for the purpose of their subsequent reduction, removal or destruction.	CL-5	OK

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

Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
subsequent reduction, removal or destruction?					
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 regulatory frameworks related to the project and demonstration of compliance with them?	VCS Std. Version 3.7	DR	Yes, these have been identified.	OK	OK
1.12. Ownership and Other Programs					
1.12.1. Project Ownership					
1.12.1.1. Is the evidence of project ownership provided in accordance with the VCS specifications on right of use?	VCS Std. Version 3.7	DR	Please see CAR-5.	CAR-5	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 3.7	DR	It has been stated in the PD that the project isn't included in an emission trading program or takes place in in a jurisdiction or sector in which binding limits are established on GHG emissions but please provide a signed and sealed letter confirming about this issue on a company letterhead.	CL-6	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	VCS Std. Version 3.7	DR	Please see CL-6.	CL-6	OK

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

Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
evidence on the following?					
1.12.2.2.1. the reductions or removals generated by the project have or will not be used in the emissions trading program	VCS Std. Version 3.7	DR	Please see CL-6.	CL-6	OK
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 3.7	DR	Please see CL-6.	CL-6	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 3.7	DR	It has been stated in the PD that the project has not created any form of other credits but please provide a signed and sealed letter confirming about this issue on a company letterhead.	CL-7	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 3.7	DR	Please see CL-7.	CL-7	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 3.7	DR	Please see CL-7.	CL-7	OK
1.12.4. Participation under other GHG programs					
1.12.4.1. Have the project(s) indicate whether the project has been registered, or is seeking registration	VCS Std. Version 3.7	DR	It has been stated in the PDD that the project does not participate/has not participated under any other GHG program but please see CL-7.	CL-7	OK

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

Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
under any other GHG programs?					
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 3.7	DR	Please see CL-7.	CL-7	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 3.7	DR	It has been stated in the PD that the project has not applied for crediting under any other GHG program nor has it been rejected from any other GHG program but please provide a signed and sealed letter confirming about this issue on a company letterhead.	CL-8	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 3.7	DR	Please see CL-8.	CL-8	OK
1.13. Additional Information Relevant to The Project					
1.13.1. Eligibility Criteria: Are the eligibility criteria for inclusion of new instances of each project activity identified for grouped projects?	VCS Std. Version 3.7	DR	N/A (Since this is not a grouped project.)	OK	OK
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 3.7	DR	N/A (Since this is not a grouped project.)	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	VCS Std. Version 3.7	DR	N/A (Since this is not a grouped project.)	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
than one methodology?					
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 3.7	DR	N/A (Since this is not a grouped project.)	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 3.7	DR	N/A (Since this is not a grouped project.)	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 3.7	DR	It has been stated in the PD that the leakage management is not applicable since there hasn't been any leakage associated with the project activity.	OK	OK
1.13.7. Commercially Sensitive Information: Is it indicated whether any commercially sensitive information has been excluded from the public version of the project description and briefly description of the items to which such information pertains provided?	VCS Std. Version 3.7	DR	It has been stated in the PD that any commercially sensitive information that has been excluded from the public version of the VCS PD that will be displayed on the VCS Project Database shall be listed by the project proponent.	OK	OK
1.13.8. Sustainable Development: Is it described how the project activity contributes to achieving any nationally stated sustainable development priorities?	VCS Std. Version 3.7	DR	Yes, this has been defined.	OK	OK
1.13.9. 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 3.7	DR	N/A (There hasn't been any further information provided in the PD.)	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
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 8.0 VCS Std. Version 3.7	DR	The approved methodology and the relevant tools with the correct and valid versions has been included in the PD.	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 8.0 VCS Std. Version 3.7	DR	The approved methodology and the relevant tools with the correct and valid versions has been included in the PD.	OK	OK
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 8.0 VCS Std. Version 3.7	DR	Yes, the applicability conditions have been justified in the PD.	OK	OK
2.2.2. Does the project activity meet each of the applicability conditions of the tools or other methodology components referred to in the applied methodology?	EB93 Report Annex 5 §67	DR	Yes, the project is considered to meet the applicability conditions identified in the PD.	OK	OK
AMS-I.D.					
2.2.3. 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 18.0 §2 §4 §7	DR	Yes, the project activity is greenfield PV project.	OK	OK
•					
2.2.3.1. Electricity to a national or a regional grid, or	AMS I.D.	DR	Yes, the project activity is planned to supply electricity to the national	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 18.0 §2 §4 §7		grid.		
2.2.3.2. Electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling?	AMS I.D. Version 18.0 §2 §4 §7	DR	N/A	OK	OK
2.2.4. Does the new unit (proposed project activity) have both renewable and non-renewable components?	AMS I.D. Version 18.0 §6 §11	DR	The project activity is greenfield PV project.	OK	OK
2.2.5. Does the new unit co-fires fossil fuel?	AMS I.D. Version 18.0 §7	DR	N/A (There hasn't been fossil fuel consumption within the project activity.)	OK	OK
2.2.6. Does the proposed project activity involve the addition of renewable energy generation units at an existing renewable power generation facility?	AMS I.D. Version 18.0 §8	DR	N/A (The proposed project activity doesn't involve the addition of renewable energy generation units at an existing renewable power generation facility.)	OK	OK
2.2.7. Is the project activity a retrofit, rehabilitation or a replacement?	AMS I.D. Version 18.0 §9	DR	N/A	OK	OK
2.2.8. If the proposed project activity is a hydro power plant project, does one of the following conditions conform to the proposed project activity?	AMS I.D. Version 18.0 §5	DR	N/A (The project activity is greenfield PV project.)	OK	OK
2.2.8.1. Is the proposed project activity implemented in an existing reservoir, with no change in the volume of reservoir?	AMS I.D. Version 18.0 §5	DR	N/A	OK	OK
2.2.8.2. 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 18.0 §5	DR	N/A	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
2.2.8.3. 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/m2?	AMS I.D. Version 18.0 §5	DR	N/A	OK	OK
2.3. Project Boundary					
2.3.1. 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 3.7	DR	Yes, the simple diagram showing clearly the physical locations of the various installations has been provided in the PD.	OK	OK
2.3.2. Has the PP described the emission sources and GHGs included in the project boundary for the purpose of calculating project emissions and baseline emissions, in the tabular format?	CDM-PDD-FORM version 8.0	DR	Please check the baseline source(s) defined in the tabular format.	CAR-10	OK
2.3.3. Has the PP presented a flow diagram of the project boundary, physically delineating the project activity, based on the description provided in section 2.3 of the PD?	CDM-PDD-FORM version 8.0	DR	Yes, the simple diagram showing clearly the physical locations of the various installations has been provided in the PD.	OK	OK
2.3.4. Has the PP included in the flow diagram the equipment, systems and flows of mass and energy described in section 2.3 of the PD, and indicated in the diagram the emission sources and GHGs included in the project boundary and the data and parameters to be monitored?	CDM-PDD-FORM version 8.0 VCS Std. Version 3.7	DR	Yes, the simple diagram showing clearly the physical locations of the various installations has been provided in the PD.	OK	OK
2.3.5. Does the selected methodology allow the PPs to choose whether a source or gas is to be included in the project boundary?	EB93 Report Annex 4 §57	DR	N/A	OK	OK
2.3.6. If the selected methodology allows the project participants to choose whether a source or gas is to be included in the project boundary, do the project participants explain and justify their	EB93 Report Annex 4 §57	DR	N/A	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
choices?					
2.3.7. Have all sources and GHGs necessary for the calculation of emissions been included within the project boundary?	VCS Std. Version 3.7 EB93 Report Annex 5 §69	DR	Please see CAR-10.	CAR-10	OK
2.3.8. Does the PD correctly describe the project boundary and the physical delineation of the proposed project activity?	EB93 Report Annex 4 §56	DR	Please see CAR-10.	CAR-10	OK
2.3.9. Has the selected methodology been correctly applied with respect to project boundary?	EB93 Report Annex 5 §63a	DR	Please see in below.	OK	OK
AMS I.D.					
2.3.10. Is the spatial extent of the project boundary identified correctly?	AMS I.D. Version 18.0 §18	DR	Please see CAR-10.	CAR-10	OK
2.4. Baseline Scenario					
2.4.1. Does the approved methodology that is selected by the proposed project activity prescribe the baseline scenario and hence no further analysis is required?	EB93 Report Annex 5 §94 EB93 Report Annex 4 §48 §49	DR	As per the applied methodology AMS-I.D, version 18, the baseline scenario is that 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.	OK	OK
2.4.2. Does the PD identify the baseline for the proposed 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 project activity?	EB93 Report Annex 5 §75 EB93 Report Annex 4 §60	DR	Yes, the baseline scenario has been identified.	OK	OK
2.4.3. If the methodology requires use of the tools to identify the baseline scenario, have all	EB93 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
those been applied?	Annex 5 §77				
2.4.4. Are there relevant national and/or sectoral policies to identify the baseline scenario?	EB93 Report Annex 5 §81 EB93 Report Annex 4 §63	DR	N/A	OK	OK
2.4.5. If there are relevant national and/or sectoral policies to identify the baseline scenario, have those been considered correctly in the PDD?	EB93 Report Annex 5 §83d	DR	N/A	OK	OK
2.4.6. Are there relevant circumstances to identify the baseline scenario?	EB93 Report Annex 5 §81	DR	N/A	OK	OK
2.4.7. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	EB93 Report Annex 5 §78	DR	N/A	OK	OK
2.4.8. If the methodology requires several alternative scenarios to be considered in the identification of the most reasonable baseline scenario, are all credible scenarios that are in the PD and are supplementary to those required by the methodology reasonable in the context of the proposed project activity?	EB93 Report Annex 5 §78	DR	N/A	OK	OK
2.4.9. 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
2.4.10. If the alternative scenarios for each of them be identified separately, are the realistic combinations of these be considered as possible alternative scenarios to the proposed project activity?	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
2.4.11. Does the list of alternative scenarios given in the PD include the following?	EB93 Report Annex 5 §93	DR	N/A	OK	OK
2.4.11.1. The project activity is undertaken without being registered as a CDM project activity	EB93 Report Annex 5 §93a	DR	N/A	OK	OK
2.4.11.2. All plausible alternatives	EB93 Report Annex 5 §93b	DR	N/A	OK	OK
2.4.11.3. Comply with all applicable and enforced legislation	EB93 Report Annex 5 §93c	DR	N/A	OK	OK
2.4.12. Has the PP explained how the baseline scenario is established in accordance with the selected methodology(ies)?	CDM-PDD-FORM version 8.0 EB93 Report Annex 4 §62	DR	Yes, this has been explained.	OK	OK
2.4.13. Where the procedure in the selected methodology(ies) involves several steps, has the PPs described how each step is applied and transparently documented the outcome of each step?	CDM-PDD-FORM version 8.0	DR	Yes	OK	OK
2.4.14. Has the PP provided and explained all data used to establish the baseline scenario (variables, parameters, data sources, etc.)?	CDM-PDD-FORM version 8.0	DR	N/A	OK	OK
2.4.15. Is the identified baseline scenario reasonably supported by correct and verifiable references, assumptions, calculations and rationales?	CDM-PDD-FORM version 8.0 EB93 Report Annex 5 §79	DR	Yes	OK	OK
2.4.16. Has the selected methodology been correctly applied with respect to baseline identification?	EB93 Report Annex 5 §63b	DR	Yes, the baseline identification has been correctly applied with the selected methodology.	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
AMS I.D.					
2.4.17. If the project activity is greenfield power plant, 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 18.0 §19	DR	Yes	OK	OK
2.4.18. If the project activity involves retrofits, rehabilitations or replacements of an existing facility, is baseline scenario identified appropriately in accordance with AMS I.D.?	AMS I.D. Version 18.0 §20	DR	N/A	OK	OK
2.4.19. 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 18.0 §21	DR	N/A	OK	OK
2.4.20. If the project activity involves capacity addition to existing grid-connected renewable energy power plant/unit,, is baseline scenario identified appropriately in accordance with AMS I.D.?	AMS I.D. Version 18.0 §21	DR	N/A	OK	OK
2.4.21. 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 PDD?	AMS I.D. Version 18.0 §44	DR	N/A	OK	OK
2.5. Additionality					
2.5.1. Has it been clearly stated in the PD which analysis method(s) has been chosen for	Kyoto Protocol Art.	DR	Please include and refer to the relevant evidence about the capacity of the project activity proving that it is below small scale threshold.	CL-9	

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
• additionality assessment?	12.5c, EB70 Report Annex 8 CDM-PDD-FORM version 8.0				
Prior consideration of CDM					
2.5.2. Is the start date of the proposed project activity prior to the date of publication of the PD for the global stakeholder consultation?	EB93 Report Annex 4 §31	DR	N/A (The project is automatically additional.)	OK	OK
2.5.3. If the start date of a proposed project activity, is prior to the date of publication of the PD for the global stakeholder consultation, have the PPs demonstrated that the VCS benefits were considered necessary in the decision to undertake the project as a proposed project activity?	EB93 Report Annex 4 §31	DR	N/A (The project is automatically additional.)	OK	OK
2.5.4. 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?	EB93 Report Annex 5 §41 EB93 Report Annex 4 §32	DR	N/A (The project is automatically additional.)	OK	OK
2.5.5. For the project activities with a starting date before 2nd August 2008 and prior to the date of publication of the PD for global stakeholder consultation, did PPs have an awareness of the CDM 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?	EB93 Report Annex 5 §42a EB93 Report Annex 4 §33a	DR	N/A (The project is automatically additional.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.6. For the project activities with a starting date before 2nd August 2008 and prior to the date of publication of the PD for global stakeholder consultation, was there enough evidence presented to prove that PPs were taking continuing and real actions to secure VCS status for the project in parallel with its implementation?	EB93 Report Annex 5 §42b EB93 Report Annex 4 §33b	DR	N/A (The project is automatically additional.)	OK	OK
2.5.7. In case of significant gap in the project development history, can a clear conclusion on prior CDM consideration be made?	EB93 Report Annex 5 §44	DR	N/A (The project is automatically additional.)	OK	OK
Sub-Step 1a: Definition of alternatives	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
Sub-Step 1b: Consistency with mandatory laws and regulations	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.8. Has the analysis of compliance of the defined alternatives with the mandatory laws and regulations carried out appropriately?	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
Step 2: Investment analysis	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.9. Are the input values used in all investment analysis valid, consistent and applicable at the time of the investment decision taken by the PP?	EB92 Report Annex 5 EB93 Report Annex 5 §96	DR	N/A (The project is automatically additional.)	OK	OK
2.5.10. Are all the listed input values been consistently applied in all calculations?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.11. Do the PPs rely on values from Feasibility Study Report (FSR) that are approved by national authorities for	EB93 Report Annex 5 §96	DR	N/A (The project is automatically additional.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
proposed project activities?					
2.5.12. If PPs rely on FSR,		DR	N/A (The project is automatically additional.)	OK	OK
2.5.12.1. 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?	EB93 Report Annex 5 §96a	DR	N/A (The project is automatically additional.)	OK	OK
2.5.12.2. Are the values used in the PD and associated annexes fully consistent with the FSR?	EB93 Report Annex 5 §96b §96c	DR	N/A (The project is automatically additional.)	OK	OK
2.5.13. Is the plant load factor defined ex-ante in the PD appropriately?	EB48 Report Annex 11	DR	N/A (The project is automatically additional.)	OK	OK
Sub-step 2a: Determine appropriate analysis method	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.14. Has the 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	N/A (The project is automatically additional.)	OK	OK
2.5.15. Is the choice of the investment analysis method appropriate to the proposed project activity?	EB70 Report Annex 8 EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
Sub-step 2b: Option I-Simple cost analysis	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.16. Have all costs associated with the project activity and the alternatives identified in Step 1 been documented?	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.17. 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	N/A (The project is automatically additional.)	OK	OK
Sub-step 2b: Option II-Apply investment comparison analysis	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.18. 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	N/A (The project is automatically additional.)	OK	OK
Sub-step 2b: Option III. Apply benchmark analysis	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.19. Has the PPs identified a financial indicator (such as IRR) which is most suitable for the project type and decision-making context including the alternatives for the benchmark analysis?	EB70 Report Annex 8 EB92 Report Annex 5 EB93 Report Annex 5 §99a	DR	N/A (The project is automatically additional.)	OK	OK
2.5.20. Has a pre-tax benchmark been applied?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.21. If post tax benchmark is applied, has actual interest payable been taken into account in the calculation of income tax?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
If the project participant has applied investment comparison or benchmark analysis	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.22. If the benchmark is based on parameters that are standard in the market, is the cost of equity determined appropriately? Guideline either by:	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.22.1. selecting the values provided in the latest applicable version of Appendix of Investment Analysis Tool? or	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.22.2. by calculating the cost of equity using Capital Asset Pricing Model (CAPM)?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
•					
2.5.23. 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?	EB92 Report Annex 5 EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.24. Has the discount rates and benchmarks been derived and supported appropriately?	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
If the company's internal benchmark has been used for the expected return on equity: (Only applicable to benchmark analysis)	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.25. Has it been demonstrated that there is only one possible project developer?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.26. 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?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.27. 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?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.28. 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 project activity?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.29. In case of loans, is the weighted average cost of outstanding long-term debt used as a benchmark?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.30. In case of bonds, is the weighted average yield of the bonds used as a benchmark?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.31. 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?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.32. In case of debt financing from a parent company, is the transfer of capital to the legal entity documented?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.33. 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 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?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
Sub-step 2c: Calculation and comparison of financial indicators (Only applicable to investment comparison and benchmark analysis)	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.34. Has the period of assessment including IRR and equity IRR calculations been chosen appropriately?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.35. Have the PPs justified the period of assessment in the context of the underlying project activity?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.36. 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?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.37. Has the fair value of the project activity assets been calculated in accordance with local accounting regulations where available, or international best practice?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.38. 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?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.39. Have all relevant costs been included for the calculation of IRR or other relevant financial indicator?	EB70 Report Annex 8 EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.40. In case of project IRR, has the cost of financing expenditures (i.e. loan repayments and interest) been included?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.41. Has the depreciation, and other non-cash items related to the project activity, (those deducted in estimating gross profits on which tax is calculated) been added back to net profits in the calculation of the financial indicator (e.g. IRR, NPV)?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
2.5.42. In case of using post-tax benchmark, has taxes been included as an expense in the IRR/NPV calculation?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.43. In case any risk premiums are applied in determination of the benchmark, are the same risks associated with the project type or activity, too?	EB93 Report Annex 5 §100b EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.44. In the equity IRR, has the cost of debt (loan, bond etc.) been considered as the net cash outflow?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.45. In cases where an investment analysis is carried out in nominal terms and the available IRR benchmarks are in real terms, have PPs converted the real term values of benchmarks to nominal values by adding the inflation rate?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.46. Has it been demonstrated that proposed project activity isn't economically or financially feasible without the revenue from CDM?	EB70 Report Annex 8 EB93 Report Annex 5 §96b	DR	N/A (The project is automatically additional.)	OK	OK
Sub-step 2d: Sensitivity analysis (Only applicable to investment comparison and benchmark analysis)	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.47. 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 PD?	EB70 Report Annex 8 EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK
2.5.48. Has the range of variations selected been justified in the context of the project?	EB92 Report Annex 5	DR	N/A (The project is automatically additional.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
Step-3: Barrier analysis	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
2.5.49. Have the PPs used and referred the “Guidelines for Objective Demonstration and Assessment of Barriers”?	EB50 Report Annex 13	DR	N/A (The project is automatically additional.)	OK	OK
Sub-step 3a: Identify barriers that would prevent the implementation of the proposed project activity		DR	N/A (The project is automatically additional.)	OK	OK
2.5.50. Has the PPs established realistic and credible barriers that would prevent the implementation of the proposed project activity?	EB70 Report Annex 8	DR	N/A (The project is automatically additional.)	OK	OK
•		DR	N/A (The project is automatically additional.)	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 (The project is automatically additional.)	OK	OK
2.5.51. 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 baseline scenario, been supported by the clear and valid evidence?	EB70 Report Annex 8 EB93 Report Annex 5 §103 EB50 Report Annex 13	DR	N/A (The project is automatically additional.)	OK	OK
2.5.52. 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 EB93 Report Annex 5 §105a EB70 Report	DR	N/A (The project is automatically additional.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
	Annex 8				
Investment, technological and other barriers		DR	N/A (The project is automatically additional.)	OK	OK
2.5.53. In case of investment barriers, is it demonstrated in the PD that the financing of the project was assured only due to the benefit of the VCS?	EB50 Report Annex 13	DR	N/A (The project is automatically additional.)	OK	OK
2.5.54. Can any of the indicated barriers be eliminated by additional financial investments into the proposed project activity?	EB93 Report Annex 5 §104 EB50 Report Annex 13	DR	N/A (The project is automatically additional.)	OK	OK
2.5.55. 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 the project?	EB50 Report Annex 13	DR	N/A (The project is automatically additional.)	OK	OK
Barriers due to prevailing practice		DR	N/A (The project is automatically additional.)	OK	OK
2.5.56. 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 EB84 Report Annex 6 §12	DR	N/A (The project is automatically additional.)	OK	OK
Step-4: Common practice analysis		DR	N/A (The project is automatically additional.)	OK	OK
2.5.57. If the project is not “first-of-its-kind”, have PPs applied the common practice analysis appropriately?	EB70 Report Annex 8 EB93 Report Annex 5 §107 EB84 Report Annex 7	DR	N/A (The project is automatically additional.)	OK	OK
2.5.58. Is the selection of the assessment region explained and justified completely and correctly?	EB93 Report Annex 5 §107a EB84 Report	DR	N/A (The project is automatically additional.)	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 7 §9				
Sub-step 4a: The proposed CDM project activity(ies) applies measure(s) that are listed below (Questions from 2.5.61 to 2.5.68 are applicable) - 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	EB70 Report Annex 8 EB84 Report Annex 7 §10	DR	N/A (The project is automatically additional.)	OK	OK
2.5.59. Have all projects within an applicable output range (+/-50%) been included into the common practice analysis?	EB84 Report Annex 7 §13	DR	N/A (The project is automatically additional.)	OK	OK
2.5.60. Have the similar projects (both CDM and non-CDM) been identified?	EB84 Report Annex 7 §14	DR	N/A (The project is automatically additional.)	OK	OK
2.5.61. If the similar projects have been identified, are the following conditions fulfilled?	EB84 Report Annex 7 §14	DR	N/A (The project is automatically additional.)	OK	OK
2.5.61.1. Are the projects located in the applicable geographical area?	EB84 Report Annex 7 §14	DR	N/A (The project is automatically additional.)	OK	OK
2.5.61.2. Are the projects applied the same measure as the proposed project activity?	EB84 Report Annex 7 §14	DR	N/A (The project is automatically additional.)	OK	OK
2.5.61.3. 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?	EB84 Report Annex 7 §14	DR	N/A (The project is automatically additional.)	OK	OK
2.5.61.4. Do the plants in which the projects have been implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as	EB84 Report Annex 7 §14	DR	N/A (The project is automatically additional.)	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
the proposed project plant?					
2.5.61.5. Are the capacity or output of the projects within the applicable capacity or output range calculated in Question 2.5.62?	EB84 Report Annex 7 §14	DR	N/A (The project is automatically additional.)	OK	OK
2.5.61.6. Do the projects start commercial operation before the PDD published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity?	EB84 Report Annex 7 §14	DR	N/A (The project is automatically additional.)	OK	OK
2.5.62. Within the projects identified in Question 2.5.62, have the following project activities been identified?	EB84 Report Annex 7 §15	DR	N/A (The project is automatically additional.)	OK	OK
2.5.62.1. Non registered CDM project activities	EB84 Report Annex 7 §15	DR	N/A (The project is automatically additional.)	OK	OK
2.5.62.2. Project activities not submitted for registration	EB84 Report Annex 7 §15	DR	N/A (The project is automatically additional.)	OK	OK
2.5.62.3. Project activities not undergoing validation	EB84 Report Annex 7 §15	DR	N/A (The project is automatically additional.)	OK	OK
2.5.63. Within similar projects identified in Question 2.5.62, have the projects applying technologies that are different to the technology applied in the proposed project activity been identified?	EB84 Report Annex 7 §16 EB70 Report Annex 8 EB93 Report Annex 5 §108c	DR	N/A (The project is automatically additional.)	OK	OK
2.5.64. Has the factor ($F=1-N_{diff} / N_{all}$) been calculated correctly?	EB84 Report Annex 7 §17	DR	N/A (The project is automatically additional.)	OK	OK
2.5.65. Based on an analysis provided in the PD, is it possible to conclude that the proposed project activity is not common practice?	EB84 Report Annex 7 §18	DR	N/A (The project is automatically additional.)	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
Sub-step 4b: The proposed CDM project activity(ies) doesn't apply any of the measures that are listed in Sub-step 4a above (Questions 2.5.68 and 2.5.69 are applicable):		DR	N/A (The project is automatically additional.)	OK	OK
2.5.66. Has the PPs provided an analysis of any other activities that are operational and that are similar to the proposed project activity in the PD?	EB70 Report Annex 8 EB93 Report Annex 5 §109b	DR	N/A (The project is automatically additional.)	OK	OK
2.5.67. 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 EB93 Report Annex 5 §109c	DR	N/A (The project is automatically additional.)	OK	OK
In all cases to check additionality at the final stage		DR	N/A (The project is automatically additional.)	OK	OK
2.5.68. Has the selected methodology been correctly applied with respect to additionality?	EB93 Report Annex 5 §63d	DR	N/A (The project is automatically additional.)	OK	OK
2.5.69. 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 8.0 EB93 Report Annex 5 §88	DR	N/A (The project is automatically additional.)	OK	OK
2.6. Methodology Deviations					
2.6.1. If there are deviations from the methodology, has the PPs provided and justified the methodology deviations?	VCS Std. Version 3.7	DR	N/A (There hasn't been any applied methodological deviation.)	OK	OK
2.6.2. If there are deviations from the methodology, has the evidence been provided on the following?	VCS Std. Version 3.7	DR	N/A (There hasn't been any applied methodological deviation.)	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
2.6.2.1. The deviation will not negatively impact the conservativeness of the quantification of GHG emission reductions or removals.	VCS Std. Version 3.7	DR	N/A (There hasn't been any applied methodological deviation.)	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 3.7	DR	N/A (There hasn't been any applied methodological deviation.)	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 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, the latest available official data has been used.	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 3.7 CDM-PDD-FORM Version 8.0		This is clearly stated in the PD.	OK	OK
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 3.7 CDM-PDD-FORM Version 8.0	DR	N/A (The project emissions are negligible in line with the applied methodology.)	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	VCS Std. Version 3.7 CDM-PDD-	DR	N/A (The project emissions are negligible in line with the applied methodology.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
the PPs?	FORM Version 8.0				
3.2.3. Has the PPs explained and justified all relevant methodological choices including the following?	CDM-PDD-FORM version 8.0 EB93 Report Annex 4 §57	DR	N/A (The project emissions are negligible in line with the applied methodology.)	OK	OK
3.2.3.1. Where the methodology(ies) or standardized baseline(s) include different scenarios or cases, indicate and justify which scenario or case applies to the project activity	CDM-PDD-FORM version 8.0 EB93 Report Annex 4 §57	DR	N/A (The project emissions are negligible in line with the applied methodology.)	OK	OK
3.2.3.2. Where the methodology(ies) or standardized baseline(s) provide different options to choose from, indicate and justify which option is chosen for the project activity	CDM-PDD-FORM version 8.0 EB93 Report Annex 4 §57	DR	N/A (The project emissions are negligible in line with the applied methodology.)	OK	OK
3.2.3.3. Where the methodology(ies) or standardized baseline(s) allow different default values, indicate and justify which of the default values have been chosen for the project activity.	CDM-PDD-FORM version 8.0	DR	N/A (The project emissions are negligible in line with the applied methodology.)	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 3.7 CDM-PDD-FORM Version 8.0	DR	N/A (The leakage emissions are negligible in line with the applied methodology.)	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
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 3.7 CDM-PDD-FORM Version 8.0	DR	N/A (The leakage emissions are negligible in line with the applied methodology.)	OK	OK
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 3.7	DR	a) Please provide relevant evidence for the annual generation and installed capacity of the project. b) Please explain why P50 value is used in Annual Electricity Generation Excel spreadsheet. c) Please include in the Excel ER calculation how the relevant days are calculated in the first and last row of Annual Electricity Calculation Table of Monitoring Plan Excel spreadsheet.	CAR-11	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 3.7	DR	The baseline emission, emission reduction and total values are stated consistently in the table in Section 3.4 of the PD and ER calculation Excel.	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 3.7	DR	Please see CAR-11.	CAR-11	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 3.7	DR	Please see CAR-11.	CAR-11	OK
AMS I.D.					
3.4.5. Are baseline emissions calculated using equation (1) given in the methodology?	AMS I.D. Version 18.0 §22	DR	Yes	OK	OK
3.4.6. Is the emission factor calculated using one of the following options:	AMS I.D. Version 18.0 §23	DR	Yes	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
3.4.6.1. 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 18.0 §23	DR	Yes	OK	OK
3.4.6.2. The weighted average emissions (in t CO ₂ /MWh) of the current generation mix.	AMS I.D. Version 18.0 §23	DR	N/A	OK	OK
3.4.7. Have the calculations been based on data from an official source (where available) and made publicly available?	AMS I.D. Version 18.0 §24	DR	Yes, the latest available official data has been used.	OK	OK
3.4.8. In case of green field power plant, is the generated electricity as a result of project activity calculated using equation (2) given in the methodology?	AMS I.D. Version 18.0 §26	DR	Yes, the electricity has been calculated using equation-2.	OK	OK
3.4.9. In case of capacity addition in wind, solar, wave or tidal power plants, are the baseline emissions calculated using equation (3) given in the methodology?	AMS I.D. Version 18.0 §27	DR	N/A	OK	OK
3.4.10. In case of capacity addition in hydro or geothermal power plants, have the requirements defined in Section 5.5.1.3 of the methodology been followed?	AMS I.D. Version 18.0 §28	DR	N/A	OK	OK
3.4.11. In case of capacity addition to biomass power plants, are the baseline emissions calculated using equations (4) and (5) given in the methodology?	AMS I.D. Version 18.0 §29 §30	DR	N/A	OK	OK
3.4.12. In case of retrofit, rehabilitation or replacement in hydro, solar, wind, geothermal, wave and tidal plants, are the baseline emissions calculated using equation (6) given in the methodology?	AMS I.D. Version 18.0 §31	DR	N/A	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
3.4.13. In case of retrofit, rehabilitation or replacement in biomass plants, are the baseline emissions calculated using equations (7) and (8) given in the methodology?	AMS I.D. Version 18.0 §32	DR	N/A	OK	OK
3.4.14. In case of retrofit, rehabilitation or replacement, have the PPs used among the following two time spans of historical data to determine EGHistorical?	AMS I.D. Version 18.0 §33 §35 §36	DR	N/A	OK	OK
3.4.14.1. The three last calendar years (five calendar years for hydro project) prior to the implementation of the project activity	AMS I.D. Version 18.0 §35	DR	N/A	OK	OK
3.4.14.2. The time period from the calendar year following DATEhist, 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 DATEhist is latest point in time between:	AMS I.D. Version 18.0 §35	DR	N/A	OK	OK
3.4.14.2.1. The commercial commissioning of the plant/unit;	AMS I.D. Version 18.0 §35	DR	N/A	OK	OK
3.4.14.2.2. If applicable: the last capacity addition to the plant/unit; or	AMS I.D. Version 18.0 §35	DR	N/A	OK	OK
3.4.14.2.3. If applicable: the last retrofit of the plant/unit	AMS I.D. Version 18.0 §35	DR	N/A	OK	OK
3.4.15. In case of retrofit, rehabilitation or replacement, have PPs followed the latest applicable version of "Tool to determine the remaining lifetime of equipment" to estimate DATEBaselineRetrofit?	AMS I.D. Version 18.0 §37 §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
DATEBaselineRetrofit is the point in time when the existing equipment would need to be replaced/retrofitted in the absence of the project activity. The point in time when the existing equipment would need to be replaced/retrofitted in the absence of the project activity should be chosen in a conservative manner that is, if a range is identified, the earliest date should be chosen.					
3.4.16. Where the project emissions are taken as "0" have the PPs made proper justification?	AMS I.D. Version 18.0 §39	DR	Yes, the justification has been provided.	OK	OK
3.4.17. 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 ACM0002?	AMS I.D. Version 18.0 §39	DR	N/A	OK	OK
3.4.18. If necessary, have the PPs calculated the CO2 emissions from on-site consumption of fossil fuels due to the project activity using the latest applicable version of the "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion?"	AMS I.D. Version 18.0 §40	DR	N/A	OK	OK
3.4.19. In case biomass is sourced from dedicated plantations, have the procedures in the tool "Project emissions from cultivation of biomass" been followed to calculate project emissions?	AMS I.D. Version 18.0 §41	DR	N/A	OK	OK
3.4.20. Has the general guidance on leakage in biomass project activities been followed to quantify leakages pertaining to the use of biomass residues?	AMS I.D. Version 18.0 §42	DR	N/A	OK	OK
3.4.21. Are the emission reductions calculated using equation (9) given in the methodology?	AMS I.D. Version 18.0 §43	DR	Please see CAR-11.	CAR-11	OK
4. MONITORING					

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
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 8.0	DR	Please see in below.	OK	OK
4.1.2. Are all ex-ante values applicable to the proposed VCS project activity?	CDM-PDD-FORM Version 8.0	DR	Please see in below.	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 8.0	DR	Yes	OK	OK
4.1.4. Are the ex-ante data and parameters correct?	CDM-PDD-FORM Version 8.0	DR	The ex-ante data and parameters are correct.	OK	OK
4.1.5. Are the units of the data and parameters specified correctly?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	The units of data and parameters are given correctly.	OK	OK
4.1.6. Are the description of data and parameters given correctly?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	The description of data and parameters are given correctly.	OK	OK
4.1.7. Is the choice of the source of data explained and justified?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, this is available.	OK	OK
4.1.8. Are the applied actual values provided correctly?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Please check and correct the table numbers for some parameters in the Section 4.1 of PD (like NCV _{i,y} and $\eta_{m,y}$).	CAR-12	OK
4.1.9. Is the purpose of data explained and justified?	VCS Std. Version 3.7	DR	The purpose of data hasn't been stated for some parameters in the	CAR-13	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
	CDM-PDD-FORM Version 8.0		Section 4.1 of PD (like NCVi,y).		
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 8.0	DR	N/A	OK	OK
4.1.11. Where values have been measured, are the following included in the VCS PD?	CDM-PDD-FORM Version 8.0	DR	N/A	OK	OK
4.1.11.1. The equipment used	CDM-PDD-FORM Version 8.0	DR	N/A	OK	OK
4.1.11.2. responsible person/entity having undertaken the measurement	CDM-PDD-FORM Version 8.0	DR	N/A	OK	OK
4.1.11.3. the date of measurement(s)	CDM-PDD-FORM Version 8.0	DR	N/A	OK	OK
4.1.11.4. the frequency of measurement(s)	CDM-PDD-FORM Version 8.0	DR	N/A	OK	OK
4.1.11.5. the measurement results?	CDM-PDD-FORM Version 8.0	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 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, the name has been included.	OK	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
4.2.2. Has the unit of the each data/parameter been included?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, the unit has been included.	OK	OK
4.2.3. Has the description of the each data/parameter been included?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, the description has been included but please clarify PMUM data is still applicable throughout the PD.	CL-10	OK
4.2.4. Has the source of the each data/parameter been included?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, the source has been 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 3.7 CDM-PDD-FORM Version 8.0	DR	N/A	OK	OK
4.2.6. Has the frequency of monitoring/recording been included?	VCS Std. Version 3.7	DR	Yes, the frequency has been included.	OK	OK
4.2.7. Are the applied actual values provided correctly?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, the applied actual value has been included.	OK	OK
4.2.8. Has the measurement methods and procedures been included?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, the measurement methods and procedures have been included.	OK	OK
4.2.9. Has the PPs included which measurement equipment is used for monitoring?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	a) The monitoring equipment hasn't been included for Solarges project. b) The initial meter test/calibration records of the main and back-up meters haven't been provided.	CAR-14	FAR-1

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

Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
4.2.10. Has the PPs included how the measurement is undertaken?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, this has been included.	OK	OK
4.2.11. Have the PPs included description of calibration procedures for the monitoring equipment?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, but the calibration/test period of the meters isn't consistent throughout the PD.	CAR-15	OK
4.2.12. Has the accuracy level of the measurement method included?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	The accuracy level has been included.	OK	OK
4.2.13. Has the responsible person/entity and the interval for the measurements included?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	Yes, this has been included.	OK	OK
4.2.14. If applicable, has the calculation method been included?	VCS Std. Version 3.7	DR	Please clarify if any calculation is applicable in the PD regarding the data and parameters monitored.	CL-11	OK
4.2.15. If the data and parameters monitored in section 4.2 of the PD are to be determined by a sampling approach, has the PP provided a description of the sampling plan in accordance with the recommended outline for a sampling plan in the latest applicable version of "Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities"? (	CDM-PDD-FORM version 8.0 EB94 Report Annex 2 §29 §30 §31 §32 §33	DR	N/A	OK	OK
4.2.16. 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?	EB86 Report Annex 4 §40a	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
4.2.17. If the sampling approach is used by the PPs, are the elements of objectives and reliability requirements complete?	EB86 Report Annex 4 §40a-i	DR	N/A	OK	OK
4.2.18. If the sampling approach is used by the PPs, do the requirements specified agree with those stated in the appropriate standards?	EB86 Report Annex 4 §40a-i	DR	N/A	OK	OK
4.2.19. If the sampling approach is used by the PPs, is the population in the sampling plan clearly defined?	EB86 Report Annex 4 §40b	DR	N/A	OK	OK
4.2.20. If the sampling approach is used by the PPs, is the proposed sampling approach clear?	EB86 Report Annex 4 §40c	DR	N/A	OK	OK
4.2.21. If the sampling approach is used by the PPs, does the sampling approach comply with the description of the population?	EB86 Report Annex 4 §40c-ii	DR	N/A	OK	OK
4.2.22. If the sampling approach is used by the PPs, is the proposed sample size adequate to achieve the minimum confidence/precision requirements?	EB86 Report Annex 4 §40d	DR	N/A	OK	OK
4.2.23. 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?	EB86 Report Annex 4 §40d	DR	N/A	OK	OK
4.2.24. If the sampling approach is used by the PPs, is the sample representative of the population?	EB86 Report Annex 4 §40e	DR	N/A	OK	OK
4.2.25. If the sampling approach is used by the	EB86 Report	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
PPs, is it identified how the sampling frame would be kept?	Annex 4 §40e-ii				
4.2.26. If the sampling approach is used by the PPs, are the methods of data collection clear and unambiguous?	EB86 Report Annex 4 §40f-i	DR	N/A	OK	OK
4.2.27. If the sampling approach is used by the PPs, are the procedures for the data measurements defined appropriately and clearly?	EB86 Report Annex 4 §40g	DR	N/A	OK	OK
4.2.28. If the sampling approach is used by the PPs, do the procedures for measurements adequately provide for minimizing non-sampling errors?	EB86 Report Annex 4 §40g	DR	N/A	OK	OK
4.2.29. If the sampling approach is used by the PPs, is the quality control and assurance strategy adequate?	EB86 Report Annex 4 §40g-i	DR	N/A	OK	OK
4.2.30. 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?	EB86 Report Annex 4 §40h-i	DR	N/A	OK	OK
4.3. Description of the Monitoring Plan					
4.3.1. Are the organizational structure, responsibilities and competencies of the personnel that will be carrying out monitoring activities identified?	VCS Std. Version 3.7	DR	Please correct the operation engineer term in the Section 4.3 of the PD and please also see CL-10.	CL-10 CL-12	OK
4.3.2. Are the methods for generating, recording, storing, aggregating, collating and reporting data on monitored parameters described?	VCS Std. Version 3.7	DR	Yes, but please see CL-10 and CL-12.	CL-10 CL-12	OK
4.3.3. Are the policies for oversight and accountability of monitoring activities described?	VCS Std. Version 3.7	DR	Yes, but please see CL-10 and CL-12.	CL-10 CL-12	OK

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

Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
4.3.4. Are the procedures for handling internal auditing and non-conformities described?	VCS Std. Version 3.7	DR	The procedures for handling internal auditing and non-conformities haven't been described.	CAR-16	OK
4.3.5. If the sampling approaches used in the monitoring plan, has the following been included?	VCS Std. Version 3.7	DR	N/A	OK	OK
4.3.5.1. target precision levels	VCS Std. Version 3.7	DR	N/A	OK	OK
4.3.5.2. sample sizes	VCS Std. Version 3.7	DR	N/A	OK	OK
4.3.5.3. sample site locations	VCS Std. Version 3.7	DR	N/A	OK	OK
4.3.5.4. stratification	VCS Std. Version 3.7	DR	N/A	OK	OK
4.3.5.5. frequency of measurement and	VCS Std. Version 3.7	DR	N/A	OK	OK
4.3.5.6. QA/QC procedures.	VCS Std. Version 3.7	DR	N/A	OK	OK
4.3.6. Have the PPs developed and described the monitoring plan for the proposed project activity in accordance with the selected methodology(ies) and all other applicable rules and requirements?	EB93 Report Annex 4 §75 EB93 Report Annex 5 §117	DR	Yes, but please see CL-10 and CL-12.	CL-10 CL-12	OK
4.3.7. Does the monitoring plan include all data, parameters and related information required by the selected methodology(ies)?	EB93 Report Annex 4 §76 EB93 Report	DR	Yes, this has been included.	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 5 §118a-ii				
4.3.8. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	EB93 Report Annex 5 §118b	DR	Yes, the monitoring arrangements are feasible within the project design.	OK	OK
4.3.9. 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 8.0	DR	Yes, this has been described.	OK	OK
4.3.10. Does the monitoring plan clearly indicate the responsibilities and internal arrangements for data collection and archiving?	CDM-PDD-FORM Version 8.0	DR	The archiving responsibilities have been defined.	OK	OK
4.3.11. Does the monitoring plan reflect good monitoring practices appropriate to the type of project activity?	CDM-PDD-FORM Version 8.0	DR	Yes, the plan reflects good monitoring practices.	OK	OK
4.3.12. Are measurements conducted with according to relevant industry or national/international standards?	CDM-PDD-FORM Version 8.0	DR	Yes, the measurements have been conducted according to national standards.	OK	OK
4.3.13. Where appropriate, are the line diagrams to display the GHG data collection and management system been included?	VCS Std. Version 3.7	DR	Yes, the simple diagram has been provided.	OK	OK
5. SAFEGUARDS					
5.1. No Net Harm					
5.1.1. Has any potential negative environmental and socio-economic impacts and the steps taken to mitigate them been summarized in the VCS PD?	VCS Std. Version 3.7	DR	a) Please complete the Section 5.1 of the PD. b) Please clarify how the PV modules are cleaned and if any potential negative environmental impact. c) Please clarify if there are any waste water and waste handling practices within the context of the project activity. d) Please clarify the land status of the project and provide the relevant documentation.	CL-13	OK

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Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
			e) Please provide the social security records of current site employees within the context of the project.		
5.2. Environmental Impacts					
5.2.1. Have the PPs carried out an analysis of the environmental impacts of the proposed project activity including transboundary impacts?	CDM-PDD-FORM Version 8.0 EB93 Report Annex 4 §87 EB93 Report Annex 5 §126	DR	a) Please correct the project name in the Section 5.2 of the PD. b) Please provide the relevant EIA decision for Solarges project.	CAR-17	OK
5.2.2. Has a summary of the analysis of the environmental impacts of the project activity and references to all related documentation, provided under PD?	CDM-PDD-FORM version 8.0 EB93 Report Annex 4 §87	DR	Please see CAR-17.	CAR-17	OK
5.2.3. Has the PPs provided all conclusions and references to all related documentation?	EB93 Report Annex 4 §87	DR	Please see CAR-17.	CAR-17	OK
5.2.4. Do the procedures of the Host Party require the PPs to conduct an environmental impact assessment?	EB93 Report Annex 4 §88 EB93 Report Annex 5 §126	DR	Please see CAR-17.	CAR-17	OK
5.2.5. If the procedures of the Host Party require the PPs to conduct an environmental impact assessment, has the PPs conducted an environmental impact	EB93 Report Annex 4 §88	DR	Please see CAR-17.	CAR-17	OK

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

Question	Reference	Means of validation*	Findings, comments, references and document sources	Draft opinion	Final opinion
assessment in accordance with the Host Party's procedures?	EB93 Report Annex 5 §127 §129				
5.3. Local Stakeholder Consultation					
5.3.1. Is the process for the invitation and compilation of local stakeholder comments described in the VCS PD?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	The process for the invitation and compilation of local stakeholder comments hasn't been included.	CAR-18	OK
5.3.2. Is the invitation made in an open and transparent manner with use of appropriate means?	CDM-PDD-FORM Version 8.0	DR	Please see CAR-18.	CAR-18	OK
5.3.3. 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 8.0	DR	The stakeholder meeting presentation materials that project was described haven't been provided.	CAR-19	OK
5.3.4. Is the local stakeholder process completed before the validation?	CDM-PDD-FORM Version 8.0 VCS Std. Version 3.7	DR	Please see CAR-18 and CAR-19.	CAR-18 CAR-19	OK
5.3.5. Is the mechanism for on-going communication with local stakeholders been identified?	VCS Std. Version 3.7	DR	The mechanism for on-going communication with local stakeholders hasn't been identified.	CAR-20	OK
5.3.6. Are the stakeholders having comments identified?	CDM-PDD-FORM Version 8.0	DR	Please see CAR-18, CAR-19 and CAR-20.	CAR-18 CAR-19 CAR-20	OK
5.3.7. Is the summary of the stakeholder comments provided sufficiently in the VCS PD?	EB93 Report Annex 4 §100 EB93 Report	DR	The summary of the stakeholder comments hasn't been provided.	CAR-21	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 5 §132f				
5.3.8. Have the PPs taken due account of any comments received and described this process in the VCS PD?	VCS Std. Version 3.7 CDM-PDD-FORM version 8.0 EB93 Report Annex 4 §102	DR	a) The comments received and how these have been taken into consideration hasn't been included. b) The document on the communication details of the relevant person in the context of PP in case of any complaint by the local stakeholders hasn't been provided.	CAR-22	OK
5.4. Public Comments					
5.4.1. Has it been demonstrated in the VCS PD how due account of all and any comments received during the public comment period had been taken?	VCS Std. Version 3.7	DR	The details on any updates to the project design or demonstrate the insignificance or irrelevance of comments hasn't been included.	CAR-23	OK
5.4.2. Have the details on any updates to the project design or demonstrate the insignificance or irrelevance of comments been included in the VCS PD??	VCS Std. Version 3.7	DR	Please see CAR-23.	CAR-23	OK

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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?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	N/A	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?	VCS Std. Version 3.7 CDM-PDD-FORM Version 8.0	DR	N/A	OK	OK

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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
CAR-1 Please provide the relevant link proving that project is listed on VCS project registry.	Cover Page and General Requirements Question 7	Process is ongoing and did not finished yet. Response (15.03.2019) Gezin SPP is now listed in the Markit Registry and its status is "under validation". Link: https://mer.markit.com/br-reg/public/project.jsp?project_id=104000000016125	Review-1: Please provide the relevant link proving that project is listed on VCS project registry. Review-2: Ok Closed (The project is listed with the status of "under validation". https://vcsprojectdatabase.org/#/pipeline)
CAR-2 a) The summary description of technologies/measures to be implemented by the project hasn't been provided in Section 1.1 of the PD. b) Please include the relevant evidences about the actual capacity of the project activity including the correlation between MWp and MWe. c) The figure and table numbers aren't available in whole PD.	1.1.1.1	a) Summary description of the technologies/measures are now included in Section 1.1. b) DOE can validate the installed capacity from Provisional Acceptance Agreements. All capacities included in the VCS-PD is in the unit of MWe. Capacity of the Solarges project can be validated from Solarges Connection to Distribution System Agreement. c) Figure and table numbers are now revised and corrected.	Review-1: a) Ok Closed (The summary description of technologies is available in the Section 1.1 of the PD). b) Ok Closed (The total capacity can be checked through the provided documents and it is in MWe). c) Ok Closed (The figure and table numbers are available in the revised PD).
CAR-3 The location of the project hasn't been provided in Section 1.1 of the PD.	1.1.1.2	Project location is now included in Section 1.1.	Review-1: Ok Closed (The location has been provided).
CAR-4 The brief description of the scenario existing prior to the implementation of the project hasn't been provided in Section 1.1 of the PD.	1.1.1.4	Brief description of the existing scenario is now included in Section 1.1.	Review-1: Ok Closed (It has been included in the PD).

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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
CAR-5 a) Please include the name and number of project participants clearly throughout the PD including the contact details. b) Please provide the relevant evidence about project ownership as stated in PD.	1.3.1	a) There is 3 project participants and their names are stated clearly in Section 1.2. Since Lahit is the bundling agency of this project, it is the legal owner of the project and has the legal rights for the credits. Therefore, only contact details of Lahit is stated in the VCS-PD. b) There are 4 projects, which are owned by Lahit Elektrik Üretim A.Ş., Petrojes Elektrik Üretim A.Ş. and Solarges Elektrik Üretim A.Ş. These ownerships can be checked from the Call Letters. For the carbon project, a single owner have been chosen, which is Lahit Elektrik Üretim A.Ş.	Review-1: a) Ok Closed (The revision has been completed in the PD). b) Ok Closed (This is available in the provided provisional acceptance protocols and connection agreement).
CAR-6 The total crediting period including the day, month and year for the start and end dates and the total number of years has been provided but the crediting period hasn't been identified consistently in the PD.	1.6.1	First crediting period is 10 years and it is between 15/01/2018 and 14/01/2028. This information is now stated consistently throughout the PD.	Review-1: Ok Closed (The crediting period has been revised).
CAR-7 The scale of the project hasn't been indicated correctly in the Section 1.7 of the PD.	1.7.1	The scale of the project has been indicated as small scale. Could you please explain more clearly what do you mean by "The scale of the project hasn't been indicated correctly in the Section 1.7 of the PD.". Do you mean that project should be micro scale or large scale? <u>Response (15.03.2019)</u> Section 1.7 is now corrected. Gezin SPP's scale is now indicated as "Project" since its GHG emission reduction is less than 300,000 tonnes of CO2e per year (Reference: VCS Standard v3.7). Gezin SPP uses CDM methodology named as AMS-I.D.: Grid connected renewable electricity generation (Version 18.0), which is an approved methodology by VERRA. In this methodology, it is stated that projects under 15 MW installed capacity can be categorized as "small scale" project. Consequently, Gezin SPP is a small scale project with respect to this CDM methodology. Therefore, although Gezin SPP's	Review-1: Please see the VCS PD template and there hasn't been any scale category as small scale. Review-2: Ok Closed (The explanation and correction is accepted).

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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
		scale is indicated as "Project" in Section 1.7, relevant scale is indicated as "small scale" in other sections of the VCS-PD.	
CAR-8 The estimated annual amount hasn't been indicated in the tabular format for whole crediting period in the Section 1.7 of the PD.	1.7.2	Crediting period is between 15/01/2018 and 14/01/2028. In Section 1.7, estimated annual amount is indicated in tabular format for whole crediting period which is 10 years.	Review-1: Ok Closed (The estimated annual amount hasn't been included in the PD).
CAR-9 Please provide the relevant documentary evidence regarding the lifetime of the project activity.	1.8.5	The lifetime of the equipment has been indicated in the PD and relevant reference has been given. Could you please indicate more clearly?	Review-1: Ok Closed (The relevant document has been provided).
CAR-10 Please check the baseline source(s) defined in the tabular format.	2.3.2	Baseline emission sources defined in Table 3 in a tabular format is reviewed and corrected.	Review-1: Ok Closed (The table has been revised).
CAR-11 a) Please provide relevant evidence for the annual generation and installed capacity of the project. b) Please explain why P50 value is used in Annual Electricity Generation Excel spreadsheet. c) Please include in the Excel ER calculation how the relevant days are calculated in the first and last row of Annual Electricity Calculation Table of Monitoring Plan Excel spreadsheet.	3.4.1	a) Since project is a retroactive project, annual generation is estimated from electricity generation data in 2018 which is now shared with DOE. Electricity generation of Solarges is estimated by comparing installed capacity of Gezin 3-4-5 with Solarges. b) Excel is now revised and P50 data is not used. c) Days given in the first and last row of Annual Electricity Calculation Table of Monitoring Plan Excel spreadsheet is explained in Section 1.1. in PD. Usage of distribution system agreement of 2.97 MWe unlicensed 3 plant (GEZIN 3, GEZIN 4 and GEZIN 5) took place on 15/01/2018 and commercial generation started on 15/01/2018. On 12/01/2018, provisional acceptance of GEZIN 3-4-5 took place ; however, even if projects were able to generate electricity, they were not able to use the distribution system. Thus, they could not sell the electricity they produce until 15/01/2018. In this sense, first crediting period started on 15/01/2018. In VCS, two times renewable crediting period of 10 years 0 month shall apply. Crediting period is between 15/01/2018 and 14/01/2028. If there are	Review-1: a) Please correct the installed capacity of the project throughout the PD. b) Please clarify how annual generation values are obtained in Annual Electricity Generation Excel spreadsheet. c) Please include in the Excel ER calculation how the relevant days are calculated in the first and last row of Annual Electricity Calculation Table of Monitoring Excel spreadsheet. Review-2: a) Ok Closed (The revision regarding the installed capacity has been completed). b) Ok Closed (The explanation is available). c) Ok Closed (ER Calculation Excel spreadsheet has been

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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
		further matters, could you please clarify? <u>Response (15.03.2019)</u> a) Gezin 3, Gezin 4 and Gezin 5 have 0.99 MW capacity individually. They are under operation and generating electricity. (Total capacity of Gezin 3-4-5 is 2.97 MW). On the other hand, Solarges has 0.86 MW capacity and is under project development phase. In this sense, total capacity of the project is 3.83 MW which is now corrected and stated consistently in VCS PD. b) Since Gezin SPP is a retroactive project, annual generation is estimated from electricity generation data in 2018 which is already shared with DOE. Gezin 3, Gezin 4 and Gezin 5 have been under operation since 15.01.2018. Since 1 year electrical generation data is available, these data is used for the annual generation estimation. As there are data for only 15 days are available for January 2018, electrical generation is multiplied by two for January 2018. It is summed with the remaining 11 months generation data and we have found the yearly generation for Gezin 3-4-5. Since Solarges is also at the same area, its electrical generation will be similar with Gezin 3-4-5. By multiplying their capacity ratio (0.86 MW/2.97 MW), with the yearly generation for Gezin 3-4-5, electrical generation for Solarges is estimated. Lastly, annual generation is found by summing electricity generation values for Gezin 3-4-5 and Solarges (Total annual generation is 6963 MWh). c) Days given in the first and last row of Annual Electricity Calculation Table of Monitoring Plan Excel spreadsheet is explained in Section 1.1. in PD. Usage of distribution system agreement of GEZİN 3, GEZİN 4 and GEZİN 5 took place on 15/01/2018 and commercial generation started on 15/01/2018. On 12/01/2018, provisional acceptance of GEZİN 3-4-5 took place ; however, even if projects were able to generate electricity, they were not able to use the	revised accordingly).

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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
		distribution system. Thus, they could not sell the electricity they produce until 15/01/2018. In VCS, project start date is the date on which project start to generate electricity and supply to the grid. In this sense, first crediting period started on 15/01/2018. In VCS, two times renewable crediting period of 10 years 0 month shall apply. First crediting period is between 15/01/2018 and 14/01/2028.	
CAR-12 Please check and correct the table numbers for some parameters in the Section 4.1 of PD (like NCV _{i,y} and η _{m,y}).	4.1.8	Table numbers in Section 4.1 are checked and corrected.	Review-1: Ok Closed (The revision has completed).
CAR-13 The purpose of data hasn't been stated for some parameters in the Section 4.1 of PD (like NCV _{i,y}).	4.1.9	Purpose of the data for all parameters are now stated in Section 4.1. <u>Response (15.03.2019)</u> Unit of HVi,y parameter is now revised and corrected.	Review-1: Please correct the unit of the HVi,y parameter. Review-2: Ok Closed (The revision is completed).
CAR-14 a) The monitoring equipment hasn't been included for Solarges project. b) The initial meter test/calibration records of the main and back-up meters haven't been provided.	4.2.9	a) Since Solarges has not been constructed yet, monitoring equipment is not purchased. When monitoring equipment will be purchased and be available, relevant information will be shared with DOE and will be included in the PD. b) Calibration documents for the meters of Gezin 3-4-5 are now provided. <u>Response (15.03.2019)</u> First index (initial meter determination) protocols for 6 meters in Gezin 3-4-5 are now shared with the DOE. Paragraph b) of the Article 9 of the 'Regulation of Metering and Testing of Metering Systems' (Regulation) of Ministry states that: ' b) Periodic tests of meters of electricity, water, coal gas, natural gas and current and voltage transformers are done every 10 years.' Therefore, periodic calibration of the meters will be done every 10 years according to the	Review-1: a) Ok Closed (The serial numbers of available electricity meters have been included in the PD including their serial numbers and initial test/calibration dates). b) Please provide the initial meter determination (test) protocols. Review-2: c) Ok Closed (The initial meter determination (test) protocols of Gezin 3, 4 and 5 projects were provided but please see FAR-1.

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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
		regulation.	
CAR-15 The calibration/test period of the meters isn't consistent throughout the PD.	4.2.11	Calibration period is now reviewed and corrected.	Review-1: Ok Closed (The revision has completed).
CAR-16 The procedures for handling internal auditing and non-conformities haven't been described.	4.3.4	The procedures for handling internal auditing and non-conformities are now explained under Section 4.3.	Review-1: Ok Closed (This has been included in the PD).
CAR-17 a) Please correct the project name in the Section 5.2 of the PD. b) Please provide the relevant EIA decision for Solarges project.	5.2.1	a) Name in Section 5.2 is now corrected. b) EIA not required decision for Solarges project is now shared with DOE.	Review-1: a) Ok Closed (The revision has completed). b) Ok Closed (EIA not required decision was provided).
CAR-18 The process for the invitation and compilation of local stakeholder comments hasn't been included.	5.3.1	Local stakeholder consultation was done on 11st of December, 2018 and related parts are now included in the PD and clearly explained. <u>Response (15.03.2019)</u> Relevant documentation declaring that Mukhtar has contact information of the project owners is now shared with the DOE.	Review-1: Please provide the mentioned document about the contact details of PP representative(s) signed by the Mukhtar. Review-2: Ok Closed (The signed letter by Kucukova Village Mukhtar dated as 27/02/2019) was provided).
CAR-19 The stakeholder meeting presentation materials that project was described haven't been provided.	5.3.3	There is no requirement to conduct a presentation for the stakeholder consultation process. The details of the stakeholder consultation are: Stakeholder engagement procedure was conducted at the Gezin Solar Power Project control room with the Kūčukova village head and the local stakeholders on 11st of December 2018. Moreover, stakeholder consultation results, public comments and attendance list of the meeting is now shared with the DOE.	Review-1: Ok Closed (The mentioned documents have been provided).
CAR-20 The mechanism for on-going communication with local stakeholders hasn't been identified.	5.3.5	Mechanism for on-going communication with local stakeholders are now defined in Section 5.3. <u>Response (15.03.2019)</u>	Review-1: Please provide the mentioned document about the contact details of PP representative(s) signed by the Mukhtar.

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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
		Relevant documentation declaring that Mukhtar has contact information of the project owners is now shared with the DOE.	Review-2: Ok Closed (The signed letter by Kucukova Village Mukhtar dated as 27/02/2019) was provided).
CAR-21 The summary of the stakeholder comments hasn't been provided.	5.3.7	The summary of the stakeholder comments is now provided in Section 5.4.	Review-1: Ok Closed (There hadn't been any comments by the interviewed local stakeholders.)
CAR-22 a) The comments received and how these have been taken into consideration hasn't been included. b) The document on the communication details of the relevant person in the context of PP in case of any complaint by the local stakeholders hasn't been provided.	5.3.8	a) Comments received and required actions are now provided in VCS-PD. Since there were no negative feedbacks from locals, there are not any required action to take. b) As validated during the site visit, muhtar (head of the village) had already taken the contact information of Deputy Company Executive of the company so that the local stakeholders will be able to reach company executive whenever they have any complaints, suggestions or ideas about the project. Conversation about the contact between muhtar and the Company Executive took place in the Stakeholder Consultation Meeting and since DOE attended the meeting, DOE can validate this information. There are no need for a document on the communication details. <u>Response (15.03.2019)</u> b) Relevant documentation declaring that Mukhtar has contact information of the project owners is now shared with the DOE.	Review-1: a) Ok Closed (There hadn't been any comments by the interviewed local stakeholders.) b) Please provide the mentioned document about the contact details of PP representative(s) signed by the Mukhtar. Review-2: Ok Closed (The signed letter by Kucukova Village Mukhtar dated as 27/02/2019) was provided).
CAR-23 The details on any updates to the project design or demonstrate the insignificance or irrelevance of comments hasn't been included.	5.4.1	There were no updates in the project design. Since there were no negative comments from the stakeholders, it can be concluded that project has not any negative impacts on locals.	Review-1: Ok Closed (There hasn't been any updates in the project design as of site visit date).
CL-1 Please include the justification for the determination	1.5.2	Justification for the start date of the Gezin SPP is provided in Section 1.1. Moreover, relevant documents which are provisional acceptance	Review-1: Ok Closed (The details are available in

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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
of the start date including the relevant evidence.		documents and usage of distribution system agreements are shared with the DOE.	the Section 1.1 of the PD).
CL-2 The list of equipment that will install within the project activity has been provided but please provide the relevant documentary evidence regarding the provided equipment type and number.	1.8.3.2	Provisional acceptance documents of GEZIN 3, GEZIN 4 and GEZIN 5 and PV module and inverter brochures are shared with DOE. In this sense, documentary evidence is shared and DOE can validate equipments by examining these documents.	Review-1: Ok Closed (The relevant documents have been provided).
CL-3 Please provide the emission sources and GHGs involved in the project activity, according to the methodology used.	1.8.4.2	Emission sources and GHGs involved in the project activity are included in Section 2.3 and Section 3.1.	Review-1: Ok Closed (The details have been included in the PD).
CL-4 a) Please provide the geographic coordinates for Solarges project. b) Please also provide the mentioned reference regarding the coordinates.	1.9.1.4	a) Geographic coordinates for Solarges projects are now included in PD. b) References for coordinates are now shared with DOE.	Review-1: a) Ok Closed (The details have been included in the PD). b) Ok Closed (The related document has been provided).
CL-5 Please demonstrate that project has not been implemented to generate GHG emissions for the purpose of their subsequent reduction, removal or destruction.	1.10.2	Gezin SPP is a renewable energy project and the technology being employed, converts solar energy into electrical energy. The technology is an environment friendly technology since there are no GHG emissions associated with the electricity generation.	Review-1: Ok Closed (The explanation is available).
CL-6 It has been stated in the PD that the project isn't included in an emission trading program or takes place in in a jurisdiction or sector in which binding limits are established on GHG emissions but please provide a signed and sealed letter confirming about this issue on a company letterhead.	1.12.2.1	Relevant documentation is now shared with DOE.	Review-1: Ok Closed (The relevant document has been provided).

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
CL-7 It has been stated in the PD that the project has not created any form of other credits but please provide a signed and sealed letter confirming about this issue on a company letterhead.	1.12.3.1	Relevant documentation is now shared with DOE.	Review-1: Ok Closed (The relevant document has been provided).
CL-8 It has been stated in the PD that the project has not applied for crediting under any other GHG program nor has it been rejected from any other GHG program but please provide a signed and sealed letter confirming about this issue on a company letterhead.	1.12.5.1	Relevant documentation is now shared with DOE.	Review-1: Ok Closed (The relevant document has been provided).
CL-9 Please include and refer to the relevant evidence about the capacity of the project activity proving that it is below small scale threshold.	2.5.1	The total capacity of the Gezin SPP is 3.83 MWe. Small scale threshold is 15 MW. Since Gezin SPP's capacity is below 15 MW, it can be considered as a small scale project. Relevant references and documentation are shared with DOE and included in PD. Could you please clarify if there are further matters? <u>Response (15.03.2019)</u> Gezin 3, Gezin 4 and Gezin 5 have 0.99 MW capacity individually. They are under operation and generating electricity. (Total capacity of Gezin 3-4-5 is 2.97 MW). On the other hand, Solarges has 0.86 MW capacity and is under project development phase. In this sense, total capacity of the project is 3.83 MW which is now corrected and stated consistently in VCS PD.	Review-1: Please correct the installed capacity of the project throughout the PD. Review-2: Ok Closed (The revision regarding the installed capacity has been completed).
CL-10 The description of each data/parameter has been included but please clarify PMUM data is still applicable throughout the PD.	4.2.3	It is indicated that main data source will be the PMUM data. PMUM data will be available for the verification DOE. <u>Response (15.03.2019)</u> As Gezin SPP is an unlicensed project, it is responsible under provisions of Regulation on Unlicensed Electricity Production under Electricity	Review-1: Please clarify if PMUM data is still applicable, since EPIAS is in place instead of PMUM. Review-2: Ok Closed (The explanation is accepted).

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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
		Market which is enacted by Republic of Turkey Energy Market Regulatory Authority (EMRA). Under the provisions of above mentioned regulation, unlicensed plants can only sell their electricity to an electric retail company which is Fırat EPSAŞ for Gezin SPP. (Fırat EDAŞ is the distribution company for Gezin SPP). PMUM and EPIAŞ are not applicable for unlicensed plants. Relevant parts in Section 4.2 and Section 4.3 are now corrected accordingly.	
CL-11 Please clarify if any calculation is applicable in the PD regarding the data and parameters monitored.	4.2.14	There are no calculations involved for data and parameters monitored which is basically net electricity generation. Electricity generation will be continuously measured by calibrated meters and will be read from PMUM data. TEİAŞ reciprocal agreement meter records will be used for cross checking.	Review-1: Ok Closed (The only monitored parameter is the net electricity generation which is continuously measured and at least monthly recorded).
CL-12 Please correct the operation engineer term in the Section 4.3 of the PD.	4.3.1	Relevant term is corrected and changed as electrical technician.	Review-1: Ok Closed (The revision has completed).
CL-13 a) Please complete the Section 5.1 of the PD. b) Please clarify how the PV modules are cleaned and if any potential negative environmental impact. c) Please clarify if there are any waste water and waste handling practices within the context of the project activity. d) Please clarify the land status of the project and provide the relevant documentation. e) Please provide the social security records of current site employees within the context of the project.	5.1.1	a) Section 5.1 is now completed. b) PV modules are cleaned with municipal water. Other substances or chemicals are not used for cleaning the PV modules. Therefore, there is no potential negative environmental impact according to project owner. c) Wastewater is being stored in a septic tank and will be transferred to wastewater treatment plant when septic tank will be completely full. Municipal wastes are dumped to the municipal dumpsites by the plant employees. d) Land procedures are completed and relevant documentation is now shared with DOE. e) Social security records of the site employees are now shared with the DOE.	Review-1: a) Ok Closed (This parameter will be monitored by the PP). b) Ok Closed (Waste water discharge parameter will be monitored by the PP). c) Ok Closed (Since there hasn't been any observed domestic waste around the plant during the site visit, this is acceptable). d) Ok Closed (The relevant title deed records have been provided). e) Ok Closed (The relevant social security records have been

* 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
			provided).
FAR-1 The electricity meter details of Solarges project including serial numbers and initial meter determination protocols shall be checked during the initial verification.	4.2.9	Please see the relevant documents regarding Solarges project electricity meters.	Ok Closed (The electricity meter details of Solarges project including serial numbers and initial meter determination protocols have been provided).

ANNEX 2: VALIDATION TEAM AND ITR COMPETENCE

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 and GS and VCS projects Team Leader in the context of Re Carbon.

Sukanta DAS, has done Msc in Physics and M. Tech in Energy technology from Tezpur Central University in India. He is a certified lead auditor for ISO 14001 EMS LA. He has more than five years of work experience at TUV NoRD under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/CDM Lead Assessor in TUV NoRD and was involved in more than 80 CDM validation and verifications activities and Gold Standard, VER projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1 technical area 1.2. He has been working as a contracted team leader, technical reviewer and renewable energy expert in the context of Re Carbon.

Annex 2-1: Appointment Certificates

Re Carbon G�zetim Denetim ve Belgelendirme Ltd. �ti. Ba�il� Plaza Muhsin Yaz�c�o�lu Cad. 43/11 TR / 08520 Balgat-Ankara Tel.: 0300-312-287 5122 Fax: 0300-312-287 3373	Certificate of Appointment	re-carbon CONSULTING LTD.
	Carbon Division	Page: 1/1

This Certificate of Appointment is given to **Mr. Anil S YLER** as a confirmation of compliance with internal qualification requirements as follows:

Clean Development Mechanism				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	N/A	N/A	05-05-2017

Verified Carbon Standard, Gold Standard, World Commission on Dams, Social Carbon				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	05-05-2017	N/A	05-05-2017

Speciality	Regional expertise	Financial expertise	Technical area
N/A	Turkey, China and Saudi Arabia	N/A	1.2 and 13.1

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

1. Participate in the assessments conducted by Re Carbon 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 person'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	05-05-2017	
Name	Position	Date	Signature

EC 003/001/06 007 000

[Handwritten signature]

Re: Carbon Özelleştirme ve Belgeleştirme Ltd. Şti. Bağış Plaza Muhsin Yazıcıoğlu Cad. 43/11 TR / 06520 Balçat-Ankara Tel: 0090-312-267 5122 Fax: 0090-312-267 3373	Certificate of Appointment	
	Carbon Division	

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

Clean Development Mechanism				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	05-05-2017	05-05-2017	05-05-2017

Verified Carbon Standard, Gold Standard, World Commission on Dams, Social Carbon				
Validator	Verifier	Team leader	Technical reviewer	Technical Expert
05-05-2017	05-05-2017	05-05-2017	05-05-2017	05-05-2017

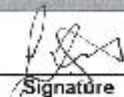
Speciality	Regional expertise	Financial expertise	Technical area
N/A	Saudi Arabia, Morocco and India	N/A	1.1, 1.2 & 13.1

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

1. Participate in the assessments conducted by Re Carbon 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	05-05-2017	
Name	Position	Date	Signature

TC-003 / 01.05.2017 - 06

