



VALIDATION REPORT PEM ENERJİ A.Ş

VALIDATION OF THE KİLLİK 40.0 MW WIND POWER PLANT

REPORT No. TURKEY-
VAL/CER.1926.10.C45/2011

REVISION No. 01

BUREAU VERITAS CERTIFICATION

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Summary:
Bureau Veritas Certification has made the validation of the Killik 40.0 MW Wind Power Plant project of PEM Enerji A.S located in northeast of Turkey, in borders of central district of Tokat on the basis of UNFCCC criteria for the CDM Methodology, Gold Standard Version 02.1 Criteria as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

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

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology ACM0002 Version 12.1.0 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" and meets the relevant UNFCCC requirements for the CDM Methodology and the relevant host country criteria.

Report No.: TURKEY-val/CER.1926.10.C45/2011	Subject Group: GS
Project title: Killik 40 MW Wind Power Plant	
Work carried out by: Team Leader – Mrs. Seda Yücel Team Member – Mr. Furkan Sadıkoğlu Technical Specialist – Mrs. Yıldız Arıkan Financial Specialist – Mr. Murat Gençer	
Internal Technical Review carried out by: Mr. H.B Muralidhar	
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Flavio Gomes

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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DSI	General Directorate Of State Hydraulic Works (Devlet Su Isleri Genel Mudurlugu)
DOE	Designated Operational Entity
EMRA	Energy Market Regulatory Authority (EPDK – Enerji Piyasasi Denetleme Kurulu)
FSR	Feedback Stakeholder Round
GHG	Green House Gas(es)
GS	Gold Standard
GS-VER-PDD	Project Design Document
I	Interview
IETA	International Emissions Trading Association
LSC	Local Stakeholder Consultation
MoV	Means of Verification
NGO	Non Government Organization
PCF	Prototype Carbon Fund
PDD	Project Design Document
PFA	Pre-feasibility Assessment
SD	Sustainable Development
TEIAS	Turkish Electricity Transmission Company (Turkiye Elektrik Iletim A.S.)
UNFCCC	United Nations Framework Convention for Climate Change
VER	Voluntary Emission Reductions
VVM	Validation and Verification Manual

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1 INTRODUCTION

PEM Enerji A.S has commissioned Bureau Veritas Certification to validate its GS-VER project Killik 40.0 MW Wind Power Plant (hereafter called “the project”) at northeast of Turkey, in borders of central district of Tokat This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC – CDM Methodology and GS criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The validation serves as project design verification and is a requirement of all projects. The validation is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC, Gold Standard Version 02.1 and host country criteria are validated in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Validation is a requirement for all GS-VER projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (VERs).

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

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules, Gold Standard Version 02.1 and associated interpretations.

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

1.3 Validation team

The validation team consists of the following personnel:

FUNCTION	NAME	CODE HOLDER*	TASK PERFORMED
Lead Verifier	Mrs. Seda Yücel	☒ Yes ☐ No	☒ DR ☒ SV ☐ RI
Verifier	Mr. Furkan Sadıkoğlu	☐ Yes ☒ No	☒ DR ☐ SV ☒ RI
Technical Specialist	Mrs. Yıldız Arıkan	☒ Yes ☐ No	☐ DR ☐ SV ☐ RI



Financial Specialist	Murat Gençer	☐ Yes ☒ No	☐ DR ☐ SV ☐ RI
Internal Technical Reviewer (ITR)	H.B Muralidhar	☒ Yes ☐ No	☒ DR ☐ SV ☒ RI

*DR = Document Review; SV = Site Visit; RI = Report issuance

2 METHODOLOGY

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

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01.2 of the Clean Development Mechanism Validation and Verification Manual, issued by the Executive Board at its 55th meeting on 30/07/2010. The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

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

2.1 Review of Documents

The Project Design Document (GS-VER-PDD) submitted by PEM Enerji A.S and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (GS-VER-PDD), Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, PEM Enerji A.S revised the PDD and resubmitted it on 04/2012.

The validation findings presented in this report relate to the project as described in the GS-VER-PDD version 04 dated 24/04/2012.

2.2 Follow-up Interviews

On 15/03/2011 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of PEM Enerji A.S

were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
PEM Enerji A.S	➤ Design of the project activity ➤ The planning and the construction phase of the project ➤ Working conditions ➤ Training of employees ➤ Impact on migration of birds
LOCAL Stakeholder	➤ Sustainable development in the region ➤ Local stakeholder consultation meeting ➤ Project's Impact on local economy
GAIA Carbon Finance (Consultant)	➤ Additionality of the project activity ➤ Investment analysis ➤ Barrier analysis ➤ Baseline determination ➤ Emission reduction calculations ➤ Consideration of comments from stakeholders ➤ Local stakeholder consultation meeting ➤ Document review

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Requests (CAR) is issued, where:

- (a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- (b) The CDM Methodology and Gold Standard requirements have not been met;
- (c) There is a risk that emission reductions cannot be monitored or calculated.

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM methodology and Gold Standard requirements have been met.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.



2.4 Internal Technical Review

The validation report underwent a Internal Technical Review (ITR) before requesting registration of the project activity.

The ITR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

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

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

The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM methodology and Gold Standard Version 02.1 rules and requirements.

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

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

After the agreement of the responses on the 'Clarification Request' from the Lead Verifier as well as the PP(s) the finalized validation report is accepted for further processing such as uploading the final report in PDF format has been sent to project proponents.

3 VALIDATION CONCLUSIONS

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the



Validation Protocol in Appendix A. The validation of the Project resulted in 16 Corrective Action Requests (CARs), 24 Clarification Requests (CLs) and 01 Forward Action Request (FARs)

The CARs and CLs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section correspond to the VVM paragraph

3.1 Approval (49-50)

Since Turkey ratified Kyoto Protocol on 05/02/2009 Turkey does not have any emission reduction target and also the approval from DNA is not requirement for the country.

3.2 Participation (54)

Since Turkey ratified Kyoto Protocol on 05/02/2009 Turkey does not have any emission reduction target and also the approval from DNA is not requirement for the country.

3.3 Project design document (57)

The validation team hereby confirms that the GS-VER-PDD complies with the latest forms of the guidance documents for completion of GS-VER-PDD.

3.4 Changes in the Project Activity

During the site visit following changes were observed in project as compared to details mentioned in webhosted PDD:

1. Sustainable Development Matrix indicator's chosen parameter and explanation
2. Emission Factor Calculation
3. Investment Analysis's inputs
4. Barrier Analysis

The final PDD version 04 has following changes as compared to PDD version 01 that was provide to DOE.

1. Sustainable Development Matrix indicator's chosen parameter and explanation has been updated to be clear. The needed clarifications and corrections have been done for each parameter.
2. Emission Factor Calculation has been updated to be in line with the methodology requirement and to be consistent both in the excel sheet and the PDD.
3. Investment Analysis's inputs have been provided to be in line with the methodology.
4. Barrier Analysis have been evaluated under CAR-5 of the validation protocol. PP have been excluded the Barrier Analysis from the PDD version 04.



3.5 Project description (64)

The process undertaken to validate the accuracy and completeness of the project description started with the document review and site visit. The project is a wind power plant in the northeast of Turkey, in borders of central district of Tokat with 40.0 MWe total capacity. The project activity consist 16 turbines each having an installed capacity of 2.5 MWe. Firstly it was planned that 54 wind turbines, each with installed capacity of 0.75 MWe would be erected. On 15/12/2010, the amendment of the generation licence was realised. In conclusion, the installed capacity of the project activity was changed from 40.5 MWe to 40 MWe and instead of 54 wind turbines, 16 turbines would be erected. The produced electricity is transferred to the 154kV Tokat OSB transformer station via 15km transmission line. The project name is given as "Killik RES" in the generation licence. The estimated annual electricity production is defined as "85.658 GWh" in the PDD. Before the generation licence was realised the annual electricity production is defined as "96.351 GWh" in the generation licence and the feasibility report. Therefore, it may be summarised that IRR study has been carried out using the financial inputs obtained from the feasibility calculations executed by the project developer on 08/06/2010, the emission reduction of the project activity has been calculated using the most current generation figure as per the methodology applied. The estimated annual emission reduction is defined as "52,087 tCO₂" in the PDD.

The project description has been confirmed during site visit, generation licence and thorough the feasibility of the project activity.

The DOE hereby confirms that the project description in GS-VER-PDD (Section A.2) is accurate and complete in all respects.

3.5.1 General requirement (76-77)

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

Applicability condition (a): Killik 40.0 MW Wind Power Plant is grid connected renewable electricity generation project information is confirmed through the generation licence of the project and with the site visit.

Applicability condition (b): The project involves construction of new units in a brand new plant, in other words the project does neither involve the addition of renewable energy generation units at an existing renewable generation facility nor does it foresee to retrofit or modify an expired facility of renewable energy generation. Information is confirmed through the generation licence of the project and with the site visit.

Applicability condition (c): The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available from TEIAS. All used information has been checked through the official web page.



Applicability condition (d): During site visit, it was confirmed that the project does not involve switching from fossil fuel use to renewable energy at the site of the project activity.

The DOE hereby confirms that the selected baseline and monitoring methodology ACM0002 Version 12.1.0, Additionality Tool Version 05.2 and “Tool to calculate the emission factor for an electricity system” (Version 2) is previously approved by the CDM Executive Board, and is applicable to the project activity, which, complies with all the applicability conditions therein.

The DOE hereby confirms that, as a result of the implementation of the proposed CDM project activity, there no greenhouse gas emissions occurring within the proposed GS-VER project activity boundary, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology

3.5.2 Project boundary (80)

The DOE validated the project boundary by:

- a) Site visit, Generation Licence and feasibility report of the project activity has been seen to confirm the project boundary.
- b) The project is individual large scale project activity.

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

3.5.3 Baseline identification (87-88)

The steps taken to assess the requirement given in paragraph 81 and 82 of the VVM are described below:

Validation team assessed the baseline identification by the project participant using the provisions of the applied methodology. As per the applied methodology ACM0002, version 12.1.0 the baseline for a new grid connected renewable power plant/unit (Greenfield project) is defined as

‘Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by 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” ‘.

It is noted that the selected baseline scenario is in line with the selected approved methodology. Validation team therefore confirms that the selected baseline scenario reasonably represents what would happen in the absence of the project activity.

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



- (a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- (d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
- (e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.5.4 Algorithms and/or formulae used to determine emission reductions (92-93)

The steps taken to assess the requirement outlined in paragraph 89 the VVM are described below:

As per ACM0002, version 12.1.0 the baseline for a new grid connected renewable power plant/unit (green-field project) is defined as

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

The project participant has calculated the baseline emissions by multiplication of the net electricity supplied by the project activity to the grid and the grid emission factor. The detailed algorithms are transparently described under section B.6 and baseline calculation sheet.

The emission reduction calculation has been done with the following equation,

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

Where:

- BE_y** = Baseline emission(tCO₂e)
- EG_y** =Annual Electricity supplied by the project to the grid(MWh)
- EG_{baseline}** =Baseline electricity supplied to the grid in the case of modified or retrofit facilities(MWh). For new power plants this value taken as zero.
- EF_{grid,CM,y}** =Baseline emission factor(tCO₂e/MWh)
- Y** = Refers to a given year.

As described in ACM0002, the leakage emissions are not be considered. Hence leakage emissions are considered as zero.



Annual electricity generation data has been used as 85,658 MWh has been validated through the generation license. Emission factor of Turkey is not defined by the government so the calculation has been done through the “tool to calculate emission factor for an electricity system” and presented through the emission factor calculation excel file. The values used for the calculation are taken from the publicly available sourced (TEIAS), IPCC and annex of the tool for the Operating and Build Margin. The years considered for OM are 2007 and 2009.

According to “Tool to calculate the emission factor for an electricity system, Version 02” the given formula is applied in OM calculations.

$$EF_{grid,OMsimple,y} = \frac{\sum_i FC_{i,y} \times NCV_{i,y} \times EF_{CO_2,i,y}}{EG_y}$$

Through the given values and the formula OM Emission Factor for 2007-2009 is calculated as;

- OM 2007 = 0.6631 MWh/tCO₂
- OM 2008 = 0.6638 MWh/tCO₂
- OM 2009 = 0.6555 MWh/tCO₂

According the methodology ex-ante calculation is used and the weighted average of the figures between 2007 and 2009 is calculated. The OM emission factor is computed as: **0.6608 tCO₂ / MWh.**

The BM emission factor is calculated between 2006 and 2009. Turkey’s capacity projection reports are determined by the validation team. Reports are published in years 2009, 2008, 2007, 2006 and 2005.

According to the Baseline methodology build margin emission factor is calculated as follows:

$$EF_{grid,BM,y} = \frac{\sum_{i,m} EG_{m,y} \times EF_{EL,m,y}}{\sum_m EG_{m,y}}$$

The BM Emission factor is computed as: **0.4606 tCO₂ / MWh.**

The project participant has applied weight average of the OM and BM as specified in the tool to arrive at the emission factor for the combined margin.

Combined margin emission factor is computed as follows regarding to the methodological tool “ Tool to calculate the emission factor for an electricity system, Version 02”.



$$EF_{\text{grid, CM, y}} = EF_{\text{grid, OM, y}} \times W_{\text{OM}} + EF_{\text{grid, BM, y}} \times W_{\text{BM}}$$

W_{om} and W_{bm} for wind and solar power generation projects are 0.75 and 0.25. Accordingly, the calculated emission factor has calculated as **0.6107 tCO₂/MWh** that was confirmed by the validation team with reviewing all the baseline calculation sheet equations and confirming the used parameters for the calculations.

Project emission is assumed to be “0” as suggested in ACM0002 / Version 12.1.0.

The crediting period has been selected as 7 years renewable. The estimated annual average emission reduction is approximately **52,087 tCO₂** and **364,610 tCO₂** the crediting period. Validation team is reviewed the given references for the emission reduction calculation. Given references are publicly available and acceptable values for Turkey.

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

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

CAR 12 has been raised since the units regarding to OM Calculations in excel sheet have not been applied. The PP has added units in excel sheet appropriately. Also under CAR 12 OM and BM calculations details have been evaluated and PP has made requested corrections in the PDD and excel sheet.

Data and parameters have been checked from TEIAS , IPCC and TUIK(Turkish Statistical Institute). Data and parameters which are used in Emission reduction calculations are line with the given references.

3.6 Additionality of a project activity (97)

The steps taken and sources of information used, to cross-check the information contained in the PDD on this matter are described below:

Tool for the demonstration and assessment of additionality Version 05.2 has been used to demonstrate additionality. Under demonstration of additionality first of all alternative projects have been identified and consistency with mandatory laws and regulations have been demonstrated. The Investment Analysis and Common Practice Analysis have been done for the project activity. The input values have been confirmed through the agreements and other sectoral data's has been confirmed by the financial specialist



through the sectoral knowledge. Common Practice analysis data's has been checked from TEIAS Statistics.

3.6.1 Prior consideration of the clean development mechanism (104)

The DOE validated the project activity start date provided in the PDD by the Subcontractor Agreement for the Construction of Transmission Line dd. 24/09/2010.

The evidence for prior consideration of the GS that were assessed are listed below:

- a) Board decision for investment and carbon finance support dd. 01/06/2009(Prior Consideration)
- b) Subcontractor Agreement for the Construction of Transmission Line dd. 24/09/2010 and Subcontractor Agreement for the excavation and ground works dd.24/09/2010(Project Activity Start Date)

Board decision records and subcontractor agreement for the construction of transmission line have been submitted to DOE by PP.

CAR-1 was raised for objective evidence for prior consideration of VER revenues were not provided. Contract with consultant was defined for prior consideration and corrective action request was closed. PP made revision in the PDD for prior consideration for VER revenues and PP was provided board decision for investment and carbon finance for prior consideration of VER revenues.

Based on the above assessment, the DOE hereby confirms that the proposed GS project activity complies with the requirements of the latest version of the Guidance on prior consideration of CDM.

3.6.1.1 Historical information on project timeline

The historical information on project timeline is given below,

Acquisition of the Project by Iltek Group	October 30th 2007
Licence obtained from EMRA	July 24th 2008
System Connection Agreement with TEIAS	December 5th 2008
Board decision for investment and carbon finance support(Prior Consideration)	June 1st 2009
EIA Not Rquired	December 28th 2009
Project Description Document	December 2009
Feasibility Report	June 8 th , 2010
Agreement with the Carbon Finance Consultant	June 21st 2010
Local Stakeholder Consultation Meeting	August 10th 2010
PEM's declaration of non-use of ODA funding	September 16th 2010
Subcontractor Agreement for the Construction of Transmission Line (Project Activity Start Date)	September 24th 2010
Subcontractor Agreement for the Excavation And Ground Works (Project Activity Start Date)	September 24th 2010
Agreement with the turbine supplier	October 6th 2010



Opinion for Construction Permit by Development and Public Works of Tokat Governorship)	October 8th 2010
Construction Permit by Tokat Provincial Council	October 8th 2010
Leasing Agreement with the financial institution	October 17th 2010
Subcontractor Agreement for the Electromechanical Works	October 20th 2010
Wind And Energy Yield Estimation Report	October 27th 2010
Subcontractor Agreement for General Construction Works	December 9th 2010
Revised Feasibility Report	December 15 th , 2010
Agreement With te DOE	January 11th 2011
Service Agreement for Work Security Services	February 9th 2011
Start of VER Validation	March 15th 2011
Positive EIA Decision for Transmission Line	April 29th 2011
Expected Commissioning of the power plant	October 1st 2011

3.6.2 Identification of alternatives (107)

The DOE considers the listed alternatives to be credible and complete.

3.6.3 Investment analysis (114)

The assessment and demonstration of additionality of the project is done by using UNFCCC Methodological Tool “Tool for the Demonstration and Assessment of Additionality”, Version 05.2. In applying this tool under Step 2 investment analysis is applied.

Under sub-step 2a three possible analysis methods are defined as;

- Option I : Simple Cost Analysis
- Option II : Investment Comparison Analysis
- Option III: Benchmark Analysis

Benchmark Analysis(Option III) is chosen and the other options are eliminated because, the proposed Project generates financial and economic benefits through the sales of electricity other than Voluntary Emissions Reduction (VERs) related income.

Under sub-step 2b, IRR is selected as a financial indicator. The selected benchmark is assessed to be applicable to the type of IRR calculated as per the guidelines given in “The tool for the demonstration and assessment of additionality”.

The financial parameter of the project has been presented below which are all validated from the generation licence, the feasibility report, the official gazette and national tax laws.

Parameter	Value	Reference	Page/Column Number	Date of the reference document
Installed	40.0	The Generation	½	24/07/2008

Capacity(MW)		License		
Grid connected output(MWh)	96,351	Financial Feasibility Calculation	"Assumptions page"	08/06/2010
Capital Investment(US\$)	37,703,961	Financial Feasibility Calculation	"Assumption page"	08/06/2010
Income tax rate(%)	%20	In line with the Turkish Tax Law		12/11/2008
Expected tariff(\$/MWh)	0.055€/kWh	The Law on Utilization of Renewable Energy Sources for the Purpose of Generating Electrical Energy	Part 3 Section C (published in the Official Gazette No. 27052, dated 12.11.08)	12/11/2008
Expected VER price(\$/tCO2)	5-7	Estimated by the Consultant The IRR Excel Sheet		
Gen.Prod.Expenses (\$/year)	1,576,252	Financial Feasibility Calculation	"Assumptions page"	March 2009
Project lifetime(years)	47.0	Electricity Generation License	½	24/07/2008
Loan: Equity Ratio	75:25	Assumption		
Interest Rate	6.70% Euribor+5.5	Financial Feasibility Calculation	The "Assumptions" page	08/06/2010
Repayment Period	12 (10+2)	Financial Feasibility Calculation	The "Assumptions" page	08/06/2010
Benchmark rate(%)	21.20	IRR Excel Sheet	The "Benchmark" page	

The Government bond rate was validated through the reference <http://www.ziraat.com.tr/tr/bankamiz/faiz-ve-ucretler.aspx/eurobond.aspx> as 9.11%.

The Beta Coefficient (β_i) for the Electricity Index is calculated as 0.939 by Bloomberg which is one of the prominent data suppliers in financial markets.

The benchmark value was calculated as %21.2 by adding the estimated country risk rate of Turkey (%12.88) to Government Bond rate (%9.11). The country risk premium is taken from the study of Prof. Aswath Damodara.

Under sub-step 2c, the IRR is calculated. Project proponents have also submitted an excel sheet showing the details of the calculations. The IRR of the project activity is around %6.98 without the VER revenues.

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

- Investment Cost
- Electricity Price
- Electricity Production

For a decrease of %5 and %10 and for an increase of %5 and %10 the results of the sensitivity analysis are presents below:

	IRR Sensitivity with Investment Cost				
Change in %	-10%	-5%	0%	5%	10%
Without VER	8.51%	7.68%	6.98%	6.38%	5.84%
IRR @6 US\$/ton VER	9.24%	8.32%	7.54%	6.88%	6.30%
IRR @7 US\$/ton VER	9.39%	8.45%	7.66%	6.98%	6.39%
IRR @7 US\$/ton VER	9.55%	8.58%	7.78%	7.09%	6.49%

	IRR Sensitivity with Electricity Price				
Change in %	-10%	-5%	0%	5%	10%
Without VER	4.87%	5.92%	6.98%	8.07%	9.17%
IRR @6 US\$/ton VER	5.30%	6.41%	7.54%	8.70%	9.89%
IRR @7 US\$/ton VER	5.39%	6.51%	7.66%	8.83%	10.04%
IRR @7 US\$/ton VER	5.48%	6.62%	7.78%	8.97%	10.20%

	IRR Sensitivity with Electricity Production				
Change in %	-10%	-5%	0%	5%	10%
Without VER	4.87%	5.92%	6.98%	8.07%	9.17%
IRR @6 US\$/ton VER	5.35%	6.44%	7.54%	8.67%	9.82%
IRR @7 US\$/ton VER	5.45%	6.55%	7.66%	8.79%	9.96%
IRR @7 US\$/ton VER	5.55%	6.65%	7.78%	8.92%	10.10%

The above benchmark and accompanying sensitivity analyses reveal the fact that no alternative scenario without VER revenue can make project pass the benchmark IRR expectation. Therefore, the project is not financially attractive.

The DOE, based on the assessment result by the financial expert engaged, hereby confirms that the underlying assumptions are appropriate and the financial calculations are correct.

3.6.4 Barrier analysis (118)

Barrier Analysis was applied at the PDD that was submitted first to the validation team.

Since the barriers were not credible CAR12 raised by the validation team. The barriers were excluded from the PDD and the CARs were closed.



Barrier Analysis is not carried out for the project activity.

3.6.5 Common practice analysis (121)

Under the common practice analysis section, wind power plant projects have been considered for whole country.

First, total installed capacities of WPP's in Turkey have been given. Until 1998 there were not any electricity generation activities from WPP in Turkey. In 1998 total capacity of WPP in Turkey was 8.7 MW. At the end of 2009 total capacity of WPP is reached to 791.6 MW but the share of WPP in Turkey's total installed capacity is %1.8. The total capacity of privately WPP projects is 78.000 MW. 751 licence applications were made to the EMRA, and EMRA declared that 724 of these applications were accepted and the other applications were cancelled. Completion ratio of WPP in Turkey has been discussed. The numbers of facilities have been defined as only 5 which are completion ratio are higher than %90 in Turkey.

In addition accessible information that many projects benefit from carbon revenues has been compared. In Turkey it is impossible to compare all similar projects if they benefit carbon revenue or not, because there is no registration authority. Accessible information has been taken from GS and VCS registry web sites. The WPP projects which benefit from carbon revenue has been defined in years 2008 and 2009. The most recently commissioned power plants are considered. Generally WPP projects have benefit from VER revenues. This proves that wind power plants are not common practice without carbon revenues in Turkey. Values confirmed from GS and VCS registry website. The statements given under the common practice were validated through the TEIAS and EMRA statistics.

Finally, the low rate of the completion of the wind power projects and the low rate of license grants for wind projects show that the wind projects are not common practice especially without carbon revenues in Turkey.

CAR-6 was raised for references for common practice analysis was not clear and CAR-8 was raised for boundary of common practice analysis was not defined clearly. The boundary of common practice analysis was defined and references were defined clearly in the PDD by PP.

The DOE hereby confirms that the proposed CDM project activity is not common practice.

3.7 Monitoring plan (124)

The DOE hereby confirms that the monitoring plan complies with the requirements of the methodology.

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design are described below.



The monitoring plan has been defined in line with the monitoring methodology. The electricity production and installed capacity will be measured during monitoring.

- **EGfacility,y** : The first data that should be monitored is the amount of electricity that is annually fed into the grid by the plant. There will be two metering devices will be used to measure generated electricity continuously and will be reported in a monthly basis. In all calculations, the main meter's measurements are used. TEIAS is the responsible company for calibration of the metering devices. Under TEIAS system usage agreement details for calibration/accuracy requirements are defined and the agreement is submitted to validation team by the project participants. The electricity generation will be recorded monthly by the both TEIAS and project staff. The generation data is also stored by PMUM. The monthly meter records will be crosschecked by PMUM records.
- **Cappj**: The second data to be monitored is the installed capacity of the project activity. The data will be monitored from the equipment labels that shows the installed capacity of turbines and also information may check from EMRA website.

Also as this is a GS VER project, seven sustainable development indicator parameters are also included in the monitoring plan:

- **Other Pollutants – “Noise”**: It is not expected from the project to cause more than the allowed noise limits set by the ministry. If any complaint consists about the noise in the project site this parameter will be monitored by a third party which is accredited by the ministry.
- **Biodiversity – “Impact on migration of birds”**: No impact is expected from the project on migration routes of birds by project proponents. Bird collision risk has been defined as very low. The blades will be painted by reflecting colour and appropriate lighting of the wind turbines will be provided. However, storm water management measures will be implemented to avoid creating small ponds which can attract birds and bats for feeding or nesting near the wind farm. This parameter will be monitored continuously and reported yearly by the company.

FAR01:

Before the start of the project activity, an Ornithology Report was prepared. The assessment of the project activity was based on the assumptions that 54 turbines each with installed capacity of 0.75 MWe would be erected. The three major suggestions could be summarizes as;

- The reduction in the number of turbines
- The design and location of the turbines
- The illumination and colouring of turbines

During the verification stage “Impact on migration of birds” should be check regarding to three major suggestions by DOE.



- **Quality of Employment – “Training Records”**: The technical personnel will be trained for the operation of the plant. Also, all of the workers will be trained on health and safety. Trainings will be given during the operation phase for both existing personnel and the newly hired ones in the future. This parameter is monitored every year by checking certificates, training records and interview with the employees.
- **Quantitative Employment and Income Generation – “Positive impact on Quantitative Employment and Income Generation in the Region”**: Before the initial verification the company will provide job opportunities in the region. The parameter will be monitored by SGK (Social Security Institution) records.

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

3.8 Sustainable development (127)

The sustainable Development has been discussed in the GS Passport of the project activity. It is confirmed that project does not cause any negative impact on the sustainable development.

Sustainable development has been discussed under sustainable development matrix of GS Passport. If any complaint consists about the noise level in the project site, noise level will be monitored by a third party which is accredited by the ministry. The company will provide job opportunities in the region and “Quality Employment and Income Generation” will be monitored by SGK (Social Security Institution) records of company. The technical personnel will be trained for the operation. Existing personnel and the newly hired ones in the future will be trained during the operation phase. Also, all of the workers will be trained on health and safety. Training records has been seen during the verification period.

3.9 Local stakeholder consultation (130)

The steps taken to assess the adequacy of the local stakeholder consultation are described below.

Local stakeholder consultation has been done in line with GS rules on 10/08/2010. The meeting date and place was announced in a local newspaper on 07/08/2010 (Tokat Local Newspaper, “Güneş”). Also invitation e-mail messages have been sent to local stakeholder. The stakeholder feedback round was held between 1st April 2011. The documentation was planned to be made available until 03/06/2011 by project participants but no comment were received until this date. The SFR was extended to end of December 2011. The project summary, PDD, LSC Report and GS Passport uploaded to the GS registry web-site and made available. The Project Summary and LSC Report were provided both English and Turkish. During site visit, the meeting with



the stakeholders has been done and it is also confirmed that the locals has generally positive opinion about the project.

The DOE hereby confirms that the process of local stakeholder consultation is observed to be adequate.

3.10 Environmental impacts (133)

The project participants have undertaken an analysis of environmental impacts and, obtained an EIA not required document letter from Ministry of Environment and Forest. EIA not required document dated 28/12/2009 and it is presented in the Annex 6 of the PDD. Also Positive EIA Certificate for transmission line from Ministry of Environment and Forest have been submitted to DOE. The document dated on 29/04/2011.

4 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Killik 40.0 MW Wind Power Plant Project in Turkey. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

Project participant/s used the latest tool for demonstration of the additionality. In line with this tool, the GS-VER-PDD provides analysis of investment, definition of alternatives to the project activity and common practice analysis to determine that the project activity itself is not the baseline scenario.

By wind power plant, the project is likely to result in reductions of GHG emissions partially. An analysis of the investment demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation (version 04) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM methodology, GS Requirements and the relevant host country criteria. Bureau Veritas



Certification thus requests registration of 'Killik 40.0 MWe Wind Power Plant ' as GS-VER project activity.

5 REFERENCES

Category 1 Documents:

Documents provided by Type the name of the company that relate directly to the GHG components of the project.

- /1/ GS-VER-PDD Version 01 dated 10/03/2011
- /2/ GS-VER-PDD Version 02 dated 08/06/2011
- /3/ GS-VER-PDD Version 03 dated 21/02/2012
- /4/ GS-VER-PDD Version 04 dated 24/04/2012
- /5/ GS Passport Version 01 dated 10/03/2011
- /6/ GS Passport Version 02 dated 08/06/2011
- /7/ GS Passport Version 03 dated 22/02/2012
- /8/ GS Passport Version 04 dated 24/04/2012
- /9/ Local Stakeholder Consultation Report
- /10/ PEM_Killik_Baseline_08.03.2011
- /11/ PEM_Killik_Baseline_21.02.2012
- /12/ PEM_Killik_WPP-IRR_Calculation_v1
- /13/ PEM_Killik_WPP-IRR_Calculation_v2
- /14/ PEM_Killik_WPP-IRR_v3_22.02.2012
- /15/ Doc 1-Board Decision-Acquisition of the Project by İltek Group 30th October 2007
- /16/ Doc 2-License with annexes obtained from EMRA July 24th 2008
- /17/ Doc 3-System Connection Agreement with TEIAS December 5th 2008
- /18/ Doc 4-Board Decision for investment and carbon finance support June 1st 2009
- /19/ Doc 5-EIA not required decision December 28th 2009
- /20/ Doc 6-TOKAT_Killik -RES_Project Description Document December 2009
Annex 12-Letter Of Undertaking
- /21/ Doc 6-TOKAT_Killik -RES_Project Description Document December 2009
- /22/ Doc 7-Agreement with the Carbon Finance Consultant June 21st 2010
- /23/ Doc 8-Subcontractor Agreement for Construction of Transmission Line
September 24th 2010
- /24/ Doc 9-Subcontractor Agreement for Excavation and Ground Works September
24th 2010
- /25/ Doc 10-Agreement with turbine supplier October 6th 2010
- /26/ Doc 11-Opinion for Construction Permit by Development and Public Works of
Tokat Governorship October 8th 2010
- /27/ Doc 12-Construction Permit by Tokat Provincial Council October 8th 2010
- /28/ Doc 13-Leasing agreement with the financial institution October 17th 2010
- /29/ Doc 14-Subcontractor Agreement for Electromechanical Works October 20th
2010
- /30/ Doc 15-Wind and Energy Yield Estimation Report October 27th 2010
- /31/ Doc 16-Subcontractor Agreement for General Construction Works December



09th 2010

- /32/ Doc 17-Service Agreement for Work Security Services February 9th 2011
- /33/ Doc 18-Positive EIA Decision for Transmission Line April 29th 2011
- /34/ Doc 19-Killik FSR June 2010
- /35/ Doc 20-Killik WPP Ornithology Report
- /36/ Doc 21- Permission by Ministry of Environment regarding with the Ornithology Report
- /37/ Doc 22- Bank Letter
- /38/ Killik WPP Training Records
- /39/ Board Decision_approval

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

- /1/ Project Design Document Form
- /2/ Validation and Verification Manual, Version 01.2
- /3/ Approved consolidated baseline and monitoring ACM0002 Version 12.1.0
- /4/ UNFCCC's Methodological Tool : "Tool for the demonstration and assessment of additionality", version 05.2
- /5/ UNFCCC's Methodological Tool: " Tool to calculate the emission factor for an electricity system", version 02
- /6/ Killik FSR dated 08/06/2010
- /7/ Project Description Report dated December 2009

Persons interviewed:

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

- /1/ Mr. Bahadır Uyanık – PEM Enerji A.S
- /2/ Mr. Sami Uyan – Project Site Chief
- /3/ Mr. Yavuz Polat – Mukhtar of the Cayoren Village
- /4/ Mr. Kaan Patır – GAIA Carbon Finance



6 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Internal Technical Reviewer : H.B. Muralidhar – Electrical Engineer

Bureau Veritas Certification, General Manager - Climate Change Services

Lead auditor in Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. Graduate in Electrical Engineering with 25 years of experience power generation and distribution relate

d fields as well as in management system auditing. He is the Lead auditor for Environmental Management System, Quality Management system and Occupational Health and Safety Management System. He has undergone intensive training on Clean Development Mechanism. He is the technical expert & conducted Validation / Verification for more than 50 CDM Projects.

Lead Verifier: Mrs. Seda Yücel – Environmental Engineer

Bureau Veritas Certification – Lead Verifier

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

Verifier: Mr. Furkan Sadikoglu – Electrical and Electronics Engineer

Bureau Veritas Certification - Verifier

Furkan Sadikoglu is an Electrical and Electronic Engineer and he has an experience in renewable energy and LED lightning sectors. He is a CDM verifier for GHG projects.

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

Sabancı University, Faculty of Management

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

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

RiskTürk Software Development and Consultancy – Head of Financial Analysis Team

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

VALIDATION REPORT

APPENDIX A: COMPANY CDM PROJECT VALIDATION PROTOCOL

Table 1 Validation requirements based on the Clean Development Mechanism Validation and Verification Manual (Version 01.2) and methodology ACM0002 (Version 12.1) – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”

CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
1. Approval			COUNTRY A (insert the country name)	COUNTRY B (insert the country name)		
a. Have all Parties involved approved the project activity?	VVM	44	N/A	N/A	OK	OK
b. Has the DNA of each Party indicated as being involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval? (If yes, provide the reference of the letter of approval, any supporting documentation, and specify if the letter was received from the project participant or directly from the DNA)	VVM	45	N/A	N/A	OK	OK
c. Does the letter of approval from DNA of each Party involved:	VVM	45	N/A	N/A	OK	OK
i. confirm that the Party is a Party of the Kyoto Protocol?	VVM	45.a	N/A	N/A	OK	OK
ii. confirm that participation is voluntary?	VVM	45.b	N/A	N/A	OK	OK
iii. confirm that, in the case of the host Party, the proposed CDM project activity contributes to the sustainable development of the country?	VVM	45.c	N/A	N/A	OK	OK
iv. Refers to the precise proposed CDM project activity title in the PDD being submitted for registration?	VVM	45.d	N/A	N/A	OK	OK
d. Is(are) the letter(s) of approval unconditional with respect to (i) to (iv) above?	VVM	46	N/A	N/A	OK	OK
e. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under	VVM	47	N/A	N/A	OK	OK


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CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
validation?						
f. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	N/A	N/A	OK	OK
g. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	N/A	N/A	OK	OK
2. Participation			PP1 (insert PP1 name)	PP2 (insert PP2 name)		
a. Have all project participants been listed in a consistent manner in the project documentation?	VVM	51	N/A	N/A	OK	OK
b. Has the participation of the project participants in the project activity been approved by a Party to the Kyoto Protocol?	VVM	51	N/A	N/A	OK	OK
c. Are the project participants listed in tabular form in section A.3 of the PDD?	VVM	52	N/A	N/A	OK	OK
d. Is the information in section A.3 consistent with the contact details provided in annex 1 of the PDD?	VVM	52	N/A	N/A	OK	OK
e. Has the participation of each of the project participants been approved by at least one Party involved, either in a letter of approval or in a separate letter specifically to approve participation? (Provide reference of the approval document for each of the project participants)	VVM	52	N/A	N/A	OK	OK
f. Are any entities other than those approved as project participants included in these sections of the PDD?	VVM	52	N/A		OK	OK
g. Has the approval of participation issued from the relevant DNA?	VVM	53	N/A	N/A	OK	OK
h. Is there doubt with respect to (g) above?	VVM	53	N/A	N/A	OK	OK
i. If yes, was verified with the DNA that the approval of participation is valid for the proposed CDM project participant?	VVM	53	N/A	N/A	OK	OK
3. Project design document						
a. Is the PDD used as a basis for validation prepared in accordance with the latest template and guidance from the CDM Executive Board available on the	VVM	55	Yes, the CDM-PDD used for validation has version number 03 (in effect as of 28 July 2006) which is in accordance with the latest template and guidance from		OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
UNFCCC CDM website?			the CDM Executive Board on the UNFCCC website.		
			Some of the pages of the PDD have title CDM PDD and some have CDM-SSC-PDD. Please clarify.	CL-1	OK
b. Is the PDD in accordance with the applicable CDM requirements for completing the PDD?	VVM	56	Yes, PDD is in accordance with the applicable CDM requirements for completing the PDD. According to the comparison of the PDD with the PDD format all titles have been included in the PDD.	OK	OK
c. In CDM-PDD section A.1 are the following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. Title of project	EB 41	Ann 12	Title is: Killik 40.5 MW Wind Power Plant	OK	OK
ii. Current version number and date of document	EB 41	Ann 12	Document version: 02 Date of completion: 8 June 2011	OK	OK
d. In CDM-PDD section A.2 are following provided (max. one page)?	EB 41	Ann 12	<i>Please see below.</i>		
i. A brief description of the project activity covering purpose which includes the scenario existing prior to the start of project, present scenario and baseline scenario	EB 41	Ann 12	The purpose of the project is to utilize wind energy potential in Turkey and to compensate energy requirement through a sustainable, environmentally and cost effective way. Baseline and project scenarios are described as: 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 whose characteristics are summarised below will generate electricity from wind power and will result in emission reductions in parallel with its electricity	OK	OK


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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
ii. Explanation on how the GHG emission reductions are effected	EB 41	Ann 12	generation figures. In the project scenario, the project whose characteristics are summarised below will generate electricity from wind power and will result in emission reductions in parallel with its electricity generation figures.	OK	OK
iii. The PP's vies on the contribution of project activity to sustainable development	EB 41	Ann 12	The project contributes to sustainable development in Turkey in following ways: □□wind energy does not result in emissions of pollutants into the atmosphere nor does it emit residuals that can have negative impact on soil, water etc. □□Killik WPP will result in extra employment □□Construction materials for the foundations, cables and access roads have been preferentially be sourced locally. During site visit bills for local purchases, bills for local women giving cleaning services have been provided to DOE. Local employees have been interviewed and some social security records have been provided as objective evidence for local employment.	OK	OK
iv. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	There are no major changes in PDD v1 and latest version other than corrections in IRR and baseline calculations.	OK	OK
e. In CDM-PDD section A.3 are following provided in the tabular format?	EB 41	Ann 12	<i>Please see below</i>		
i. List of project participants and parties	EB 41	Ann 12	PEM Enerji A.S. is PP.	OK	OK
ii. Identification of Host Party			Host party is Turkey.	OK	OK


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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
iii. Indication whether the Party wishes to be considered as project participant	EB 41	Ann 12	Indication is "no".	OK	OK
f. In CDM-PDD section A.4.1 are following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. Technical description, location, host party(ies) and address as required	EB 41	Ann 12	Project is in Central Anatolia Region, province of Tokat, Turkey.	OK	OK
ii. Detailed physical location with unique identification of the project activity (eg. Longitude/latitude) – not to exceed one page	EB 41	Ann 12	Coordinates are provided. Coordinates measured on site are in line with the coordinates in the PDD.	OK	OK
iii. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	There are no major changes in PDD v1 and latest version other than corrections in IRR and baseline calculations.	OK	OK
g. In CDM-PDD section A.4.2 is the list of categories of project activities provided?	EB 41	Ann 12	Kilik WPP falls in the "Renewable Energy Supply Category", according to the Gold Standard Toolkit. Also, as the proposed project activity is a grid connected renewable energy project, according to the UNFCCC definitions for sectoral scopes for CDM projects, project activity is included in the Sectoral Scope 01: Energy Industries (Renewable / Non-renewable sources).	OK	OK
h. In CDM-PDD section A.4.3 are following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. A description of how environmentally safe and sound technology, and know-how, is transferred to the Host Party(ies)	EB 41	Ann 12	Technology and know how is transferred via equipment and trainings: The wind turbines of the plant are to be supplied from Nordex which is one of the world leading companies in wind power technologies. The technology used in the plant includes first wind turbines and its auxiliary equipments with extensive automatization. The project does not need extensive initial training and	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			maintenance efforts in order to work as presumed during the project period. Necessary trainings to the plant staff will be delivered by the supplier in line with the agreement between the project owner and the supplier.		
ii. Explanation of purpose of project activity with scenario existing prior to the start of project, scope or present activities and the baseline scenario	EB 41	Ann 12	The purpose of the project is to utilize wind energy potential in Turkey and to compensate energy requirement through a sustainable, environmentally and cost effective way. 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 whose characteristics are summarised below will generate electricity from wind power and will result in emission reductions in parallel with its electricity generation figures.	OK	OK
iii. List and arrangement of the main manufacturing/production technologies, systems and equipments involved	EB 41	Ann 12	Please clearly state in summary section (below) in the PDD that Number of turbines is 16. First provide the current situation and then mention the previous planned number of turbines and annual generation. "PEM Enerji A.Ş. (PEM) proposes to install Killik WPP with 40.5 MW installed capacity capacity in borders of central district of Tokat. Killik WPP will have 54 turbines each having an installed capacity of 0.75 MW. The total electricity production of the project is expected to be some 85.658 MWh/year (Although it was contemplated to erect 54 wind turbines in the project area during the time of investment decision, according to	CAR-13	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			reconfiguration of the project design occurred in October 2010, it was decided to change the design of the project as to have 16 turbines each having an installed capacity of 2.5 MW with an expectation of 95.912 MWh/year electricity production). “		
1.			Please provide references for numbers in “During the time of investment decision, the annual average energy production of the power plant was expected to be some 85.658 GWh/year. However, according to reconfiguration of the project design occurred in October 2010, the annual average energy production of the power plant is expected to be some 95.912 GWh/year.”		
			Please clarify if the installed capacity is 40 or 40,5 MW. CO2 is included as baseline emission.		
iv. The emissions sources and GHGs involved	EB 41	Ann 12		OK	OK
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	There are no major changes in PDD v1 and latest version other than corrections in IRR and baseline calculations.	OK	OK
i. In CDM-PDD section A.4.4 is the estimation of emission reductions provided as requested in a tabular format?	EB 41	Ann 12	Estimations are presented in tabular format.	OK	OK
j. In CDM-PDD section A.4.5 is Information regarding Public funding provided?	EB 41	Ann 12	No public funding is used.	OK	OK
k. In CDM-PDD section B.1 are following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. The approved methodology and version number	EB 41	Ann 12	For determination of the baseline, the official methodology ACM0002/Version 12.1.0, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, approved by the CDM Executive Board, is applied.	OK	OK
ii. Any methodologies or tools which the above	EB 41	Ann	To prove additionality and to calculate the grid	CL-20	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
approved methodology draws upon and their version number		12	emission factor, the official methodologies: "Tool for the demonstration and assessment of additionality, Version 05.2" and "Tool to calculate the emission factor for an electricity system, Version 02" are used. Please check for updates of these tools.		
I. In CDM-PDD section B.2 are following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. Justification of the choice of methodology that the project activity meets each of the applicability conditions	EB 41	Ann 12	The choice of methodology ACM0002/Version 12.1.0 is justified as the proposed project activity meets relevant applicability criteria: Killik 40.5 MW WPP Project is the installation of a grid connected renewable power generation project which adds electricity capacity to the grid from wind power sources and which supplies electricity to a system that is supplied by at least one fossil fuel fired generating unit. The project involves construction of new units in a brand new plant, in other words the project does neither involve the addition of renewable energy generation units at an existing renewable power generation facility nor does it foresee to retrofit or modify an expired facility of renewable energy generation. The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available; The project does not involve switching from fossil fuels to renewable energy at the site of the project activity.	OK	OK
ii. Documentations with references that had been used. This can be provided in Annex 3 instead	EB 41	Ann 12	Annex 3 is for baseline calculations. There are no references for applicability.	OK	OK
m. In CDM-PDD section B.3 are following provided?	EB 41	Ann 12		OK	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Description of all sources and gases included in the project boundary in the table	EB 41	Ann 12	Project has no emissions. Baseline emissions are CO2.	OK	OK
ii. A flow diagram of the project boundary physically delineating the project activity	EB 41	Ann 12	Site layout is provided.	OK	OK
iii. The flow diagram with all equipments, systems and flows of mass and energy etc	EB 41	Ann 12	Site layout is provided.	OK	OK
2.			Please explain the relevance of the information in section B.3. with project boundary. Remove unnecessary information.	CL-21	OK
n. In CDM-PDD section B.4 are following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. Explanation how the most plausible baseline scenario is identified in accordance with the selected baseline methodology	EB 41	Ann 12	The method to describe and calculate the baseline has clearly been specified by the Baseline Methodology. CDM Executive Board has already provided a consolidated tool for appraising and demonstrating the additionality feature of the projects. Since the project is an installation of a new grid-connected renewable power plant, the baseline scenario is formulated in ACM0002: "Electricity delivered to the grid by the project 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 below".	OK	OK
ii. Justification of key assumptions and rationales	EB 41	Ann 12	There are no assumptions since the baseline scenario is directly formulated in ACM0002.	OK	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources, etc.)	EB 41	Ann 12	There is no data used since the baseline scenario is directly formulated in ACM0002.	OK	OK
iv. A transparent and detailed description of the identified baseline scenario, including a description	EB 41	Ann 12	Baseline is "Electricity delivered to the grid by the project would have otherwise been generated by the	OK	OK



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of the technology that would be employed and/or the activities that would take place in the absence of the proposed project activity			operation of grid-connected power plants and by the addition of new generation sources".		
v. Are there any changes/modifications compared to the webhosted PDD?	EB 41	Ann 12	There are no major changes in PDD v1 and latest version other than corrections in IRR and baseline calculations.	OK	OK
o. In CDM-PDD section B.5 are following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. Explanation of how and why this project activity is additional and therefore not the baseline scenario in accordance with the selected baseline methodology	EB 41	Ann 12	In Section B.5 of the PDD; it has been stated that the project is additional since the project will contribute to emission reductions by replacing the likely thermal (fossil-fuel based) sources of energy with a renewable source (wind energy) for electricity generation.	OK	OK
ii. Justification of key assumptions and rationales	EB 41	Ann 12	In section B.5 Justification of key assumptions and rationales are given clearly in the PDD.	OK	OK
iii. Transparent illustration of all data used to determine the baseline scenario (variables, parameters, data sources etc)	EB 41	Ann 12	Given references are checked from TEIAS official web site. References and values are line in.	OK	OK
iv. Evidence that the incentive from the CDM was seriously considered in the decision to proceed with the project activity, if the starting date of the project activity is before the date of validation	EB 41	Ann 12	Please include a timeline of milestones of the project and provide objective evidences to validate each date so that start date" investment decision date" can be determined.	CAR-1	OK
			Please provide objective evidence that VER revenues were considered before the start date.		
			Please provide documents: License and revisions EIA not required document Construction permit Expropriation papers of grazing area and treasury land Transmission line agreement Contract with an A grade Work Security Specialist		
p. In CDM-PDD section B.6.1 are following provided?	EB 41	Ann		OK	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
i. Explanation as to how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity	EB 41	Ann 12	The baseline for the project was established through the official methodology of ACM0002. To prove additionality and to calculate the grid emission factor, the official methodologies: "Tool for the demonstration and assessment of additionality, Version 05.2" and "Tool to calculate the emission factor for an electricity system, Version 02" are used. Last, the consolidated monitoring methodology for grid connected generation from renewable sources named as "Approved Monitoring Methodology ACM0002 is applied in order to define the monitoring plan. The project emissions, baseline emissions and emission reductions are calculated as demonstrated in the methodologies. More details on application of methodology to determine project emissions, baseline emissions and emission reductions are given in section B.6.1.	OK	OK
ii. Equations used in calculating emission reductions	EB 41	Ann 12	Details on equations used to determine project emissions, baseline emissions and emission reductions are given in section B.6.1.	OK	OK
iii. Explanation and justification for all relevant methodological choices, including different scenarios or cases, options and default values	EB 41	Ann 12	The explanation and justification for all relevant methodological choices, including different options and default values are provided under section B.6.1 of the PDD version 01.	OK	OK
q. In CDM-PDD section B.6.2 are following provided?	EB 41	Ann 12	<i>Please see below.</i>		
i. A compilation of information on the data and parameters that are not monitored throughout the crediting period but that are determined only once and thus remains fixed throughout the crediting	EB 41	Ann 12	Emission reduction calculation are evaluated under CAR-12	OK	OK



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period AND that are available when validation is undertaken					
ii. The actual value period	EB 41	Ann 12	The actual value is given under section B.6.2 of the PDD version 01.	OK	OK
iii. Explanation and justification for the choice of the source of data	EB 41	Ann 12	The choice of the source of data is explained and justified under section B.6.2 of the PDD version 01.	OK	OK
iv. Clear and transparent references or additional documentation in Annex 3	EB 41	Ann 12	In Annex 3 all the information related to the baseline calculations are given.	OK	OK
v. Where values have been measured, a description of the measurement methods and procedures (e.g. which standards have been used), indicated the responsible person/entity having undertaken the measurement, the date of measurement(s) and the measurement results	EB 41	Ann 12	The values used in the calculations are not measured.	OK	OK
r. In CDM-PDD section B.6.3 are following provided?	EB 41	Ann 12	<i>Please see below.</i>		
i. A transparent ex ante calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology	EB 41	Ann 12	The ex-ante calculation of emission reductions, applying all relevant equations provided in the approved methodology are given under section B.6.3 of the PDD version 01.	OK	OK
ii. Documentation how each equation is applied, in a manner that enables the reader to reproduce the calculation	EB 41	Ann 12	Emission reduction calculation are evaluated under CAR-12	OK	OK
iii. Additional background information and or data in Annex 3, including relevant electronic files (i.e. spreadsheets)	EB 41	Ann 12	The data given on the spreadsheets are also given in Annex 3 of the PDD version 02.	OK	OK
s. In CDM-PDD section B.6.4 are the results of the ex ante estimation of emission reductions for all years of the crediting period, provided in a tabular format?	EB 41	Ann 12	Estimation of emission reductions are provided in a tabular format.	OK	OK
t. In CDM-PDD section B.7.1 are following provided?	EB 41	Ann		OK	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
		12			
i. Specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity	EB 41	Ann 12	To monitor amount of electricity: There will be two meters attached to the power plant for measurement of the generated electricity. One of the meters is main meter and the other is control meter. The role of the second meter is to check if the main meter measures the generated electricity accurately.	OK	OK
			To monitor installed capacity: data will be obtained from the digital displays on the equipments. Digital displays show the instantaneous power generation of the turbine. Please clarify how this demonstrates the installed capacity.	CL-2	OK
ii. For each parameter the following below information, using the table provided:	EB 41	Ann 12	<i>Please see below</i>		
a. The source(s) of data that will be actually used for the proposed project activity (e.g. which exact national statistics). Where several sources may be used, explain and justify which data sources should be preferred.	EB 41	Ann 12	Source of data is project activity site for the parameters.	OK	OK
b. Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person/entity that should	EB 41	Ann 12	Only EG data is measured. The recalibration of the meters will be done in line with the equipment requirements but re-calibration periods are defined by national metrology institutes country by country and in Turkey this period is defined as 10 years. 60 If there is a measuring difference between these two meters and one of the parties (TEIAS or the company) requests for calibration of the meters, in this case, the meters will be calibrated without waiting for	OK	OK



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undertake the measurements and what is the measurement interval; (i) A description of the QA/QC procedures (if any) that should be applied; (ii) Where relevant: any further comment. Provide any relevant further background documentation in Annex 4.			the periodic calibration date. (TEIAS System Usage Agreement, Art 3, B./2./b) This calibration process is done by another third party under the control of TEIAS. The company is not responsible for calibration of the meters in Turkey according to the local standards. In all calculations, the main meter's measurements are used. The generated electricity will be measured continuously and reported in a monthly basis. The plant manager of Killik WPP will be responsible for providing the measurement records which show the monthly electricity generation of the company.		
			Please clarify which documents are to be used for cross check or EG facility data.	CL-22	OK
u. In CDM-PDD section B.7.2 are following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. A detailed description of the monitoring plan	EB 41	Ann 12	Monitoring plan is described in detail.	OK	OK
ii. The operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity	EB 41	Ann 12	The plant management of PEM is responsible with all monitoring and reporting issues in general.	OK	OK
iii. The responsibilities for and institutional arrangements for data collection and archiving	EB 41	Ann 12	The plant management of PEM is responsible with all monitoring and reporting issues in general.	OK	OK
iv. Indication that the monitoring plan reflect good monitoring practice appropriate to the type of project activity	EB 41	Ann 12	Monitoring is good practice.	OK	OK
v. Relevant further background information in Annex 4	EB 41	Ann 12	There is no extra information in Annex 4.	OK	OK
v. In CDM-PDD section B.8 are following provided?	EB 41	Ann 12		OK	OK
i. Date of completion of the application of the	EB 41	Ann	The application of the baseline study and the	OK	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
methodology to the project activity study in DD/MM/YYYY		12	monitoring methodology was completed on 8/03/2011.		
ii. Contact information of the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology to the project activity	EB 41	Ann 12	Please indicate name of responsible for baseline and monitoring methodology.	CL-3	OK
iii. Indication if the person/entity is also a project participant listed in Annex 1	EB 41	Ann 12	Please indicate if the the person/entity is also a project participant listed in Annex 1	CL-4	OK
w. In CDM-PDD section C.1.1 are following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. The starting date of a CDM project activity, which is the earliest of the date(s) on which the implementation or construction or real action of a project activity begins/has begun (EB33, Para 76/CDM Glossary of terms/EB41, Para 67)	EB 41	Ann 12	Please include a timeline which shows the milestones of the project so that it can be checked which date is the adequate start date.	CAR-2	OK
ii. A description of how this start date has been determined, and a description of the evidence available to support this start date	EB 41	Ann 12	Please describe how the start date is determined.		
iii. If this starting date is earlier than the date of publication of the CDM-PDD for global stakeholder consultation by a DOE, description in Section B.5 contain a of how the benefits of the CDM were seriously considered prior to the starting date (EB41, Para 68).	EB 41	Ann 12	Please show objective evidence for prior consideration of VER revenues.		
x. In CDM-PDD section C.1.2 is the expected operational lifetime of the project activity in years and months provided?	EB 41	Ann 12	Please express expected lifetime of the project in MM/YY format.	CL-5	OK
y. In CDM-PDD section C.2 is it stated whether the project activity will use a renewable or a fixed crediting period and is C.2.1 or C.2.2 completed accordingly?	EB 41	Ann 12	Renewable crediting period is used.	OK	OK
z. In CDM-PDD section C.2.1 is it indicated that each crediting period shall be at most 7 years and may be renewed at most two times, provided that, for each	EB 41	Ann 12	Please indicate that each crediting period shall be at most 7 years and may be renewed at most two times if the DOE informs the Executive Board that the original	CL-6	OK



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renewal, a designated operational entity determines and informs the Executive Board that the original project baseline is still valid or has been updated taking account of new data where applicable?			project baseline is still valid.		
aa. In CDM-PDD section C.2.1.1 are dates in the following format: (DD/MM/YYYY) provided?	EB 41	Ann 12	The first crediting period starts with commissioning of the power plant which is expected to be in September 1 st , 2011.	OK	OK
bb. In CDM-PDD section C.2.1.2 is the length of the first crediting period in years and months provided?	EB 41	Ann 12	Length of the first crediting period is 7 years.	OK	OK
cc. In CDM-PDD section C.2.2 is the fixed crediting period at most ten (10) years provided?	EB 41	Ann 12	N/A	OK	OK
dd. In CDM-PDD section C.2.2.1 are the dates provided in the following format: (DD/MM/YYYY)?	EB 41	Ann 12	N/A	OK	OK
ee. In CDM-PDD section C.2.2.2 is the length of the crediting period in years and months Provided?	EB 41	Ann 12	N/A	OK	OK
ff. In CDM-PDD section D.2 are the conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the Host Party, if environmental impacts are considered significant by the project participants or the Host, provided?	EB 41	Ann 12	Please provide EIA not required documents to DOE.	CAR-3	OK
			On pg 52 of the PIF, it is stated that a permit will be obtained from the government indicating that the project has no negative impact on migrating birds. Please provide the permit.	CAR-3	OK
			Please provide documents demonstrating compliance with the mentioned regulations in section I.5 of the PIF.	CAR-3	OK
gg. In CDM-PDD section E.1 are the following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. The process by which comments by local stakeholders have been invited and compiled. An	EB 41	Ann 12	Stakeholders were invited to the meeting held on 10 Augustos 2010 through different means including:	OK	OK



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invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted.			1- E-mail correspondence. 2- Invitation letters 3- Newspaper advertisements. 4- Personal face to face invitations to local public managers, NGOs and local people.		
ii. The project activity is described in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures.	EB 41	Ann 12	During the meeting, to introduce project to the local people and to give details about how this project will impact their lives, a presentations from the carbon asset development consultant firm was given. The information given in presentations was based on the non-technical summary of the project. The presentation was addressing the issues about project specifications and how the project might have some environmental effects, how these issues will be mitigated by the investor and also climate change and how the project will help the fight against climate change.	OK	OK
iii. The local stakeholder process has been completed before submitting the proposed project activity to the DOE for validation.	EB 41	Ann 12	Excluding the SFR, LSC process has been finished before submittal.	OK	OK
hh. In CDM-PDD section E.2 are following provided?	EB 41	Ann 12	<i>Please see below</i>		
i. Identification of local stakeholders that have made comments	EB 41	Ann 12	Please identify local stakeholders that have made comments	CL-7	OK
ii. A summary of this comments.	EB 41	Ann 12	Summary of comments and questions is given in the PDD.	OK	OK
ii. In CDM-PDD section E.3 is the explanation of how due account have been taken of comments received from local stakeholders provided?	EB 41	Ann 12	LSC report is referenced for due account.	OK	OK
jj. In CDM-PDD Annex 1 are the following provided?	EB 41	Ann 12	<i>Please see below</i>		


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i. Contact information of project participants	EB 41	Ann 12	Contact information of PP is in Annex 1.	OK	OK
ii. For each organisation listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB 41	Ann 12	Address information is given.	OK	OK
kk. In CDM-PDD Annex 2 is information from Parties included in Annex I on sources of public funding for the project activity which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties provided?	EB 41	Ann 12	Information regarding public funding is provided.	OK	OK
ll. In CDM-PDD Annex 3 is the background information used in the application of the baseline methodology provided?	EB 41	Ann 12	Baseline information is provided and it will be checked by expert and will be handled in a different section of this protocol.	OK	OK
mm. In CDM-PDD Annex 4 is the background information used in the application of the monitoring methodology provided?	EB 41	Ann 12	Annex 4 is not used.	OK	OK
4. Project description					
a. Does the PDD contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation?	VVM	58	Please provide the mechanical contract so that the information given in description about turbines can be validated.	CAR-4	OK
b. Is the description of the proposed CDM project activity as contained in the PDD:	VVM	59	<i>Please see below</i>	OK	OK
i. sufficiently covering all relevant elements?	VVM	59	PDD includes all relevant elements.	OK	OK
ii. accurate?	VVM	59	PDD includes all relevant elements.	OK	OK
iii. providing the reader with a clear understanding of the nature of the proposed CDM project activity?	VVM	59	Description provides the reader with a clear understanding of the nature of the project.	OK	OK
iv. Are there any changes/modifications compared to	VVM	59	There are no major changes in PDD v1 and latest	OK	OK


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the webhosted PDD?			version other than corrections in IRR and baseline calculations.		
c. Is the proposed CDM project activity in existing facilities or or utilizing existing equipments?	VVM	60	No, project is installation of a new WPP.	OK	OK
d. Is the CDM project activity one of the following types:	VVM	60	<i>Please see below</i>		
i. Large scale?	VVM	60	Yes	OK	OK
ii. Non-bundled small scale projects with emission reductions exceeding 15,000 tonnes per year?	VVM	60	N/A	OK	OK
iii. Bundled small scale projects, each with emission reductions not exceeding 15,000 tonnes?	VVM	60	N/A	OK	OK
e. If yes to I and (d) above, was a physical site inspection conducted to confirm that the description in the PDD reflects the proposed CDM project activity, unless other means are specified in the methodology?	VVM	60	N/A	OK	OK
f. If yes to (d.iii) above, was the number of physical site visits base on sampling?	VVM	60	N/A	OK	OK
g. If yes is the sampling size appropriately justified through statistical analysis?	VVM	60	N/A	OK	OK
h. For other individual proposed small scale CDM project activities with emission reductions not exceeding 15,000 tonnes per year, was a physical site inspection conducted?	VVM	61	N/A	OK	OK
i. For all other proposed CDM project activities not referred to in paragraphs 59 – 61, was a physical site inspection conducted?	VVM	62	Yes, a site visit was conducted on 15/03/2011.	OK	OK
j. If no, was it appropriately justified?	VVM	62	N/A	OK	OK
k. Does the proposed CDM project activity involve the alteration of an existing installation or process?	VVM	63	No, it is a greenfield plant.	OK	OK
l. If yes, does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	VVM	63	N/A	OK	OK
5. Baseline and monitoring methodology					



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
a. General requirement					
a. Do the the baseline and monitoring methodologies selected by the project participants comply with the methodologies previously approved by the CDM Executive Board?	VVM	65	Baseline is selected accordingly with the methodology.	OK	OK
b. Is the selected methodology applicable to the project activity?	VVM	66	Baseline is selected accordingly with the methodology.	OK	OK
c. Had the PP correctly applied the selected methodology?	VVM	66	Baseline is selected accordingly with the methodology.	OK	OK
d. Had the selected methodology been correctly applied with respect to project boundary?	VVM	67	Baseline is selected accordingly with the methodology.	OK	OK
e. Had the selected methodology been correctly applied with respect to baseline identification?	VVM	67	Baseline is selected accordingly with the methodology.	OK	OK
f. Had the selected methodology been correctly applied with respect to Algorithms and/or formulae used to determine emission reductions?	VVM	67	Baseline is selected accordingly with the methodology.	OK	OK
g. Had the selected methodology been correctly applied with respect to additionality?	VVM	67	Baseline is selected accordingly with the methodology.	OK	OK
i. Has the additionality of the project activity been demonstrated and assessed using the latest version of the "Tool for the demonstration and assessment of additionality" agreed by the Board, which is available on the UNFCCC website?	ACM	0002 v.11	Baseline is selected accordingly with the methodology.	OK	OK
h. Had the selected methodology been correctly applied with respect to monitoring methodology?	VVM	67	Baseline is selected accordingly with the methodology.	OK	OK
b. Applicability of the selected methodology to the project activity					
a. Is the selected baseline and monitoring methodology, previously approved by the CDM Executive Board, applicable to the project activity? Is the used version valid?	VVM	68	Methodology is applicable. Version 12.1.0 is valid at time of submission of documents to DOE.	OK	OK



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i. This methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plants); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).	ACM	0002 v.11	☐ Killik 40.5 MW WPP Project is the installation of a grid connected renewable power generation project which adds electricity capacity to the grid from wind power sources and which supplies electricity to a system that is supplied by at least one fossil fuel fired generating unit. ☐ The project involves construction of new units in a brand new plant, in other words the project does neither involve the addition of renewable energy generation units at an existing renewable power generation facility nor does it foresee to retrofit or modify an expired facility of renewable energy generation. ☐ The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available; ☐ The project does not involve switching from fossil fuels to renewable energy at the site of the project activity. The above statements are validated during site visit.	OK	OK
b. Has the DOE applied specific guidance provided by the CDM Executive Board in respect to the applicable approved methodology?	VVM	69	Methodology is referred to cross check the baseline application.	OK	OK
c. Is the methodology correctly quoted?	VVM	70	Yes, methodology is correctly quoted	OK	OK
d. Are the applicability conditions of the methodology met?	VVM	71	Applicability conditions are met.	OK	OK
i. The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit,	ACM	0002 v.11	☐ Killik 40.5 MW WPP Project is the installation of a grid connected renewable power generation project which adds electricity capacity to the grid from wind power sources and which supplies electricity to a system that is supplied by at least one	OK	OK



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geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit			fossil fuel fired generating unit.		
ii. In the case of capacity additions, retrofits or replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the parameter EGPJ,y): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity.	ACM	0002 v.11	The project involves construction of new units in a brand new plant, in other words the project does neither involve the addition of renewable energy generation units at an existing renewable power generation facility nor does it foresee to retrofit or modify an expired facility of renewable energy generation.	OK	OK
iii. In case of hydro power plants, one of the following conditions must apply: - The project activity is implemented in an existing reservoir, with no change in the volume of reservoir; or - The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m ² ; or - The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the Project Emissions section, is greater than 4 W/m ² .	ACM	0002 v.11	N/A	OK	OK
iv. The methodology is not applicable to the following conditions. Please confirm - Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity	ACM	0002 v.11	The geographic and system boundaries for the relevant electricity grid can be clearly identified and information on the characteristics of the grid is available; The project does not involve switching from fossil fuels to renewable energy at the site of the project activity.	OK	OK


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- Biomass fired power plants; - Hydro power plants that result in new reservoirs or in the increase in existing reservoirs where the power density of the power plant is less than 4 W/m ² .					
v. In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is "the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance".	ACM	0002 v.11	The project involves construction of new units in a brand new plant, in other words the project does neither involve the addition of renewable energy generation units at an existing renewable power generation facility nor does it foresee to retrofit or modify an expired facility of renewable energy generation.	OK	OK
e. Is the project activity expected to result in emissions other than those allowed by the methodology?	VVM	71	No, there won't be any extra emissions.	OK	OK
f. Is the choice of the methodology justified?	VVM	71	The choice of methodology ACM0002 is justified as the proposed project activity meets the relevant applicability criteria.	OK	OK
g. Have the project participants shown that the project activity meets each of the applicability conditions or the approved methodology?	VVM	71	Refer to (5.b.d) above	-	-
h. Have the project participants shown that the project activity meets each of the applicability conditions of any tool or other methodology component referred to the methodology?	VVM	71	The official tools of the methodology are used.	OK	OK
i. Are each of the applicability conditions of the "Tool to calculate the emission factor for an electricity system" met?	EB 50	Ann 40	The official tools of the methodology are used.	OK	OK
ii. Are each of the applicability conditions of the "Tool for the demonstration and assessment of	EB 39	Ann 10	The official tools of the methodology are used.	OK	OK



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iii. additionality” met? Are each of the applicability conditions of the “Combined tool to identify the baseline scenario and demonstrate additionality” met?	EB 28	Ann 14	N/A	OK	OK
iv. Are each of the applicability conditions of the “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion” met?	EB 41	Ann 11	N/A	OK	OK
i. Is the DOE, based on local and sectoral knowledge, aware that comparable information is available from sources other than that used in the PDD?	VVM	71	The comparable information is not available from sources other than that used in the PDD.	OK	OK
j. If yes, was the PDD cross checked against the other sources to confirm that the project activity meets the applicability conditions of the methodology? (provide the reference to these choices)	VVM	71	The comparable information is not available from sources other than that used in the PDD. Hence, this checklist question is N/A.	OK	OK
k. Can a determination regarding the applicability of the selected methodology to the proposed CDM project activity be made?	VVM	72	Methodology is applicable to the project.	OK	OK
l. If no, clarification of the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	72	N/A	OK	OK
m. If answer to (5.b.d) above is “no”, revision or deviation from the methodology was requested, in accordance with the guidance provided by the CDM Executive Board?	VVM	73	N/A	OK	OK
n. If yes to (5.b.l) and (5.b.m) above, a request for registration was submitted before the CDM Executive Board has approved the proposed deviation or revision?	VVM	74	N/A	OK	OK
c. Project boundary					
a. Does the PDD correctly describe the project boundary, including the physical delineation of the proposed CDM project activity included within the project	VVM	78	Boundary for baseline is “Generation mix of electricity grid in Turkey” and boundary for project is “Construction and Operation of the project activity”.	OK	OK



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boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity?					
i. Does the extent of the project boundary, as described in the PDD, include the project power plant and all power plants connected physically to the electricity system that the CDM project power plant is connected to?	ACM	0002 v11	Yes, baseline boundary covers the whole grid.	OK	OK
ii. Are the greenhouse gases and emission sources that are included in or excluded from the project boundary shown in a table format as per applicable methodology?	ACM	0002 v 11	Emissions are shown in tabular format. CO2 is included as baseline emission.	OK	OK
b. Is the delineation in the PDD of the project boundary correct and include identification of all locations, processes and equipment including secondary equipment and associated processes such as logistics etc.?	VVM	79	Yes, project boundary covers the whole project.	OK	OK
c. Does the delineation in the PDD of the project boundary meet the requirements of the selected baseline?	VVM	79	Yes, project boundary covers the whole project.	OK	OK
d. Have changes been made to the project boundary in comparison to the webhosted PDD. If yes please comment on the reason for the changes.	VVM	79	There are no major changes in PDD v1 and latest version other than corrections in IRR and baseline calculations.	OK	OK
e. Have all sources and GHGs required by the methodology been included within the project boundary?	VVM	79	CO2 is included as baseline emission and it is in line with the methodology.	OK	OK
f. Does the methodology allow project participant to choose whether a source or gas is to be included within the project boundary	VVM	79	No, methodology is clear about which emissions to include.	OK	OK
g. If yes, have the project participants justified that choice?	VVM	79	N/A	OK	OK
h. If yes, is the justification provided reasonable?	VVM	79	N/A	OK	OK



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(provide reference to the supporting documented evidence provided by the project participants)					
d. Baseline identification					
a. Does the PDD identify the baseline for the proposed CDM project activity, defined as the scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the proposed CDM project activity?	VVM	81	Yes, 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.	OK	OK
b. Has any procedure contained in the methodology to identify the most reasonable baseline scenario, been correctly applied?	VVM	82	There is no procedure in the methodology, it is clearly described for greenfield WPP.	OK	OK
i. If the project activity is the install a new grid-connected renewable power plant/unit (greenfield plant), is the baseline scenario identified appropriately in accordance with the ACM0002 ver.11?	ACM	0002 v11	Please refer above.	OK	OK
ii. If the project activity is a capacity addition to existing grid-connected renewable power plant/unit, is the baseline scenario identified appropriately in accordance with the ACM0002 ver. 11? And is the point of time at which the generation facility would likely be replaced or retrofitted (DATE Baseline Retrofit) reasonably defined?	ACM	0002 v11	Please refer above.	OK	OK
iii. If the project activity is the retrofit or replacement of existing grid-connected renewable power plant/unit, is the baseline scenario identified following the step-wise procedure in accordance with the ACM0002 ver.11?	ACM	0002 v11	Please refer above.	OK	OK
iv. Are the realistic and credible alternative baseline scenarios for power generation appropriately identified following the Step 1 of the "Combined tool to identify the baseline scenario and demonstrate	ACM	0002 v11	Please refer above.	OK	OK



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additionality"? (Step 1)					
v. Are the realistic and credible alternative baseline scenarios i.e. P1, P2 and P3 appropriately applied Barrier analysis following the Step 2 of the "Combined tool to identify the baseline scenario and demonstrate additionality"? (Step 2)	ACM	0002 v11	Please refer above.	OK	OK
vi. If more than one alternative is remaining after Step 2, is Investment analysis appropriately applied (apply an Investment Comparison as per step 3 of the "Combined tool to identify the baseline scenario and demonstrate additionality" or a Benchmark Analysis as per step 2b of the "Tool for the demonstration and assessment of additionality")? (Step 3)	ACM	0002 v11	Please refer above.	OK	OK
c. Does the selected methodology require use of tools (such as the "Tool for the demonstration and assessment of additionality" and the "Combined tool to identify the baseline scenario and demonstrate additionality") to establish the baseline scenario?	VVM	82	Please refer above.	OK	OK
d. If yes, was the methodology consulted on the application of these tools? (In such cases, the guidance in the methodology shall supersede the tool.)	VVM	82	Please refer above.	OK	OK
e. Does the methodology require several alternative scenarios to be considered in the identification of the most reasonable baseline scenario?	VVM	83	Please refer above.	OK	OK
f. If yes, are all scenarios that are considered by the project participants and are supplementary to those required by the methodology reasonable in the context of the proposed CDM project activity?	VVM	83	Please refer above.	OK	OK
g. Has any reasonable alternative scenario been excluded?	VVM	83	Please refer above.	OK	OK



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h. Is the baseline scenario identified reasonably supported by:	VVM	84	Please refer above.	OK	OK
i. Assumptions?	VVM	84	Please refer above.	OK	OK
ii. Calculations?	VVM	84	Please refer above.	OK	OK
iii. Rationales?	VVM	84	Please refer above.	OK	OK
i. Are the documents and sources referred to in the PDD correctly quoted and interpreted?	VVM	84	Please refer above.	OK	OK
j. Was the information provided in the PDD cross checked with other verifiable and credible sources, such as local expert opinion, if available? (identify the sources)	VVM	84	Please refer above.	OK	OK
k. Have all applicable CDM requirements been taken into account in the identification of the baseline scenario for the proposed CDM project activity?	VVM	85	Please refer above.	OK	OK
l. Have all relevant policies and circumstances been identified and correctly considered in the PDD, in accordance with the guidance by the CDM Executive Board?	VVM	85	Please refer above.	OK	OK
m. Does the PDD provide a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?	VVM	86	Yes, the baseline is clearly described in the PDD.	OK	OK
e. Algorithms and/or formulae used to determine emission reductions					
a. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring?	VVM	89	55,658 is mentioned in the annual emission reduction calculations. Please clarify.	CAR-14	OK
b. Have the equations and parameters in the PDD been correctly applied with respect those in the select approved methodology?	VVM	90	The equations and parameters in the PDD have been correctly applied with respect those in the select approved methodology.	OK	OK



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i. Are the Project emissions appropriately calculated?.	ACM	0002 v.11	Project emissions are zero and are appropriately calculated	OK	OK
ii. Are the Baseline emissions appropriately calculated specifically for (a) greenfield plants or (b) retrofit and replacements or (c) capacity additions?	ACM	0002 v.11	It is clear how the baseline emissions are calculated.	OK	OK
iii. Are the Leakage appropriately calculated?	ACM	0002 v.11	Leakage emissions are zero.	OK	OK
iv. Are the Emission reductions appropriately calculated?	ACM	0002 v.11	It is clear how the baseline emissions are calculated.	OK	OK
c. Have project participants prepared as part of the CDM-PDD an estimate of likely emission reductions for the proposed crediting period? This estimate should, in principle, employ the same methodology as selected for the calculation of emission reductions. Where the grid emission factor (EFCM,grid,y) is determined ex post during monitoring, project participants may use models or other tools to estimate the emission reductions prior to validation.	ACM	0002 v.11	The estimated emission reduction is calculated in accordance with "Tool to calculate the emission factor for an electricity system". The ex-ante calculation of emission reductions, applying all relevant equations provided in the approved methodology are given under section B.6.3 of the PDD version 01.	OK	OK
d. Does the methodology provide for selection between different options for equations or parameters?	VVM	90	The methodology and the referred tool "Tool to calculate the emission factor for an electricity system" provides a selection between different options for equations or parameters.	OK	OK
e. If yes, has adequate justification been provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence provided)?	VVM	90	The steps of the "Tool to calculate the emission factor for an electricity system" version 02 are applied under section B.6.3 of the PDD version 01. The tool provides different options in Steps 1, 2, 3, 4, 5, 6 and 7. Please see below discussions for details and some discrepancies.	OK	OK
			Step 1 "Identification of the relevant electrical power system": The application criteria is clearly stated.	OK	OK
			Step 2 "Choose whether to include off-grid power	OK	OK



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			plants in the project electricity system": This step is optional and there are two options in the step 2. Option 1 is chosen, only grid power plants are included in the calculation of operating margin and build margin emission factor.		
			Step 3 "Select a method to determine the operating margin (OM)": The project proponent selected simple OM method. It has been stated in the PDD that other methods other than the simple OM method was not applicable to the proposed project activity due to data constraints. Since power plant based information is not publicly available in Turkey, the given justification has also been accepted by the DOE. The applicability of the method C has been justified by stating that the share of must run low cost power plants in Turkey is lower than 50%. The statement has been justified by Table 17 of the PDD version 1. The references given has been accepted by the DOE since the given reference is publicly available and a credible source.	OK	OK
			Step 4 "Calculating the operating margin emission factor according to the selected method": There are two options (Option A and Option B) in the Step 4 of "Tool to calculate the emission factor for an electricity system" version 02. Option B is applied.	OK	OK
			Step 5 "Identifying the group of the power units to be included in the build margin": In this step, a generation-weighted average emission factor is calculated based on a sample of power plants, which have been taken into operation recently. The sample group of power plants/units m used to calculate the build margin consists of two options (Option a and Option b). For conducting the calculations, Option b is	OK	OK



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			selected, because this option results in a larger electricity generation. In terms of vintage data, there are two options available: Option 1 (ex-ante) and Option 2 (ex-post). The ex-ante option is selected.		
			Step 6" Calculate the build margin emission factor"		
			According to the baseline methodology, the Build Margin Emission Factor is calculated.	OK	OK
			Step 7 "Calculate the combined margin emissions factor"		
			According to the baseline methodology, the combined margin emissions factor are calculated.	OK	OK
f. If yes, have correct equations and parameters been used, in accordance with the methodology selected?	VVM	90	Refer to (5.e.b) above	-	-
g. Will data and parameters be monitored throughout the crediting period of the proposed CDM project activity?	VVM	91	Data and parameters be monitored during the project activity throughout the crediting period	OK	OK
h. If no, and these data and parameters will remain fixed throughout the crediting period, are all data sources and assumptions:	VVM	91	N/A	OK	OK
a.Appropriate and correct?	VVM	91	N/A	OK	OK
i. Applicable to the proposed CDM project activity?	VVM	91	N/A	OK	OK
ii. Resulting in a conservative estimate of the emission reductions?	VVM	91	N/A	OK	OK
i. Will data and parameters be monitored on implementation and hence become available only after validation of the project activity?	VVM	91	EG generation data will only be available when plant starts operation and that is probably after validation ends. Installed capacity and EF grid is are available during validation.	OK	OK
j. If yes, are the estimates provided in the PDD for these	VVM	91	N/A	OK	OK



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data and parameters reasonable?					
6. Additionality of a project activity					
a. Does the PDD describe how a proposed CDM project activity is additional?	VVM	94	Additionality is described in section B.5.	OK	OK
b. Does the CDM-PDD state the latest version of the additionality tool being used?	ACM	0002 v.11	"Tool for the demonstration and assessment of additionality version 05.2 " is used and it is the latest version.	OK	OK
c. Were the following steps of the tool to assess additionality used:	EB 39	Ann 10		OK	OK
v. Identification of alternatives to the project activity?	EB 39	Ann 10	Alternatives to the project activity have been determined as: Alternative 1 : Construction of a thermal power plant with the same annual power output Alternative 2 : The proposed project activity not undertaken as a VER project activity Alternative 3 :The same service of power supply is provided from the grid (Killik WPP is not built)	OK	OK
i. Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible?	EB 39	Ann 10	IRR analysis is used.	OK	OK
ii. Barriers analysis?	EB 39	Ann 10	Barriers analysis is used.	OK	OK
vi. Common practice analysis?	EB 39	Ann 10	Common practice analysis has been used.	OK	OK
d. In step 1 (i) have all the sub-steps as below been followed?	EB 39	Ann 10		OK	OK
i. Sub-step 1a: Define alternatives to the project activity	EB 39	Ann 10	Alternatives have been defined.	OK	OK



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i. Sub-step 1b: Consistency with mandatory laws and regulations	EB 39	Ann 10	Providing information about required permits and regulations, please discuss the projects and alternatives consistency with mandatory laws and regulations.	CL-8	OK
e. Have the following alternatives been included while defining alternatives as per sub-step 1a?	EB 39	Ann 10	<i>Please see below</i>	OK	OK
i. (a) The proposed project activity undertaken without being registered as a CDM project activity;	EB 39	Ann 10	Considered. Found realistic.	OK	OK
ii. I(c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).	EB 39	Ann 10	Considered. Found realistic.	OK	OK
f. Has the project participant included the technologies or practices that provide outputs or services with comparable quality, properties and application areas as the proposed CDM project activity and that have been implemented previously or are currently being introduced in the relevant country/region?	EB 39	Ann 10	Although the coal and natural gas reserves in Turkey is very limited, there are many thermal power plants that have been being commissioned in recent years and Turkey's grid mainly consists of thermal power plants. As they have become common practice in the energy sector due to off-take agreements provided by the government, these projects face easier circumstances in terms of financing and realisation. In addition, these projects use imported coal, so they can be realized regardless of their geographic proximity to coal supply. Therefore, construction of a thermal plant with the same annual electricity output is a realistic alternative.	OK	OK
g. Has the outcome of Step 1a: Identified realistic and credible alternative scenario(s) to the project activity done correctly? Please briefly mention the outcome.	EB 39	Ann 10	Under these circumstances, analyzing these three alternatives, it is seen that all scenarios are consistent with the baseline definition of ACM0002 / Version 12.1.0 where it defines the baseline scenario as the amount of electricity that would be delivered to the grid by the project activity, generated by the operation of existing grid-connected power plants and by the addition new generation sources, as reflected by the combined	OK	OK



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			margin.		
h. Is the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution.?	EB 39	Ann 10	Providing information about required permits and regulations, please discuss the consistency with mandatory laws and regulations.	CL-8	OK
i. If an alternative does not comply with all mandatory applicable legislation and regulations, has it been shown that, based on an examination of current practice in the country or region in which the law or regulation applies, those applicable legal or regulatory requirements are systematically not enforced and that noncompliance with those requirements is widespread in the country?	EB 39	Ann 10	N/A	OK	OK
j. Has the outcome of Step 1b: Identified realistic and credible alternative scenario(s) to the project activity that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations done correctly? Please state the outcome.	EB 39	Ann 10	N/A	OK	OK
k. Has PP selected Step 2 (Investment analysis) or Step 3 (Barrier analysis) or both Steps 2 and 3?	EB 39	Ann 10	PP selected Step 2 (Investment analysis).	OK	OK
l. In step 2, have all the sub-steps as below been followed?	EB 39	Ann 10		OK	OK
i. Sub-step 2a: Determine appropriate analysis method;	EB 39	Ann 10	Option III: Benchmark Analysis is selected as the analysis method and the Equity IRR is selected as the financial indicator for the demonstration of the additionality of the project.	OK	OK
ii. Sub-step 2b: Option I. Apply simple cost analysis;	EB 39	Ann 10	Since the proposed project generates financial and economic benefits via the sales of electricity other than carbon revenues, Option I cannot be used.	OK	OK
iii. Sub-step 2b: Option II. Apply investment	EB 39	Ann	Option II is only applicable to projects where	OK	OK



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comparison analysis;		10	alternatives should be similar investment projects in terms of generation capacity. Between Option II and Option III, benchmark financial analysis (Option III) is selected as the analysis method.		
ii. Sub-step 2b: Option III. Apply benchmark analysis;	EB 39	Ann 10	Option III: Benchmark Analysis is selected as the analysis method and the Equity IRR is selected as the financial indicator for the demonstration of the additionality of the project.	OK	OK
iv. Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III);	EB 39	Ann 10	Equity IRR is calculated.	OK	OK
iii. Sub-step 2d: Sensitivity analysis (only applicable to Options II and III).	EB 39	Ann 10	Sensitivity analysis is used.	OK	OK
m. In sub-step 2a has the determination of appropriate method of analysis done as per the guidance as below?	EB 39	Ann 10	Please see below.	OK	OK
i. Simple cost analysis if the CDM project activity and the alternatives identified in Step 1 generate no financial or economic benefits other than CDM related income (Option I).	EB 39	Ann 10	It is stated that benchmark analysis is applied.	OK	OK
ii. Otherwise, use the investment comparison analysis (Option II) or the benchmark analysis (Option III). Specify option used with justification.	EB 39	Ann 10	The benchmark analysis method is adopted based on the consideration of the equity IRR of the proposed project.	OK	OK
n. Has the below guideline followed for sub-step 2b Option I. Apply simple cost analysis? Document the costs associated with the CDM project activity and the alternatives identified in Step1 and demonstrate that there is at least one alternative which is less costly than the project activity.	EB 39	Ann 10	This analysis method can be used if the project activity produces no economic benefits other than CDM related income. However, this option is NOT applicable to the project because the project activity generates the revenue from the sale of electricity generation.	OK	OK
o. Has the below guideline followed for sub-step 2b Option II. Apply investment comparison analysis? Identify the financial indicator, such as IRR, NPV, cost benefit ratio, or unit cost of service most suitable for	EB 39	Ann 10	The investment comparison analysis, shouldn't be done. The reason is, given by the defined alternatives, that the only realistic and creditable alternative, i.e. the baseline scenario, is the continuation of electricity	OK	OK



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the project type and decision-making context. Please specify			supply from the existing national power grid to meet the electricity demand other than a new power investment project.		
p. Has the below guideline followed for Sub-step 2b: Option III. Apply benchmark analysis?	EB 39	Ann 10	<i>Please see below</i>		
i. Identify the financial/economic indicator, such as IRR, most suitable for the project type and decision context.	EB 39	Ann 10	CAPM calculation is done to obtain benchmark rate.	OK	OK
ii. When applying Option II or Option III, the financial/economic analysis shall be based on parameters that are standard in the market, considering the specific characteristics of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Only in the particular case where the project activity can be implemented by the project participant, the specific financial/economic situation of the company undertaking the project activity can be considered.	EB 39	Ann 10	All parameters and inputs used in the financial analysis are in line with market conditions. They are not subjective and they don't depend on project or project owners' specific features.	OK	OK
iii. Discount rates and benchmarks shall be derived from: (a) Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert or documented by official publicly available financial data; (b) Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds' required return on comparable projects; (c) A company internal benchmark (weighted average capital cost of the company), only in the particular case referred to	EB 39	Ann 10	Benchmark rate is obtained by CAPM rules. Government bond rates increased by a risk premium including the beta of the project. The application is done properly in the project.	OK	OK



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above in 2. The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark; (d) Government/official approved benchmark where such benchmarks are used for investment decisions; (e) Any other indicators, if the project participants can demonstrate that the above Options are not applicable and their indicator is appropriately justified. Please specify benchmark and justify.					
q. Has the below guideline followed for Sub-step 2c: Calculation and comparison of financial indicators (only applicable to Options II and III)?	EB 39	Ann 10	Please see below.		
i. Calculate the suitable financial indicator for the proposed CDM project activity and, in the case of Option II above, for the other alternatives. Include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but possibly including inter alia subsidies/fiscal incentives, ODA, etc, where applicable), and, as appropriate, non-market cost and benefits in the case of public investors if this is standard practice for the selection of public investments in the host country.	EB 39	Ann 10	All necessary costs are taken into consideration in the analysis.	OK	OK
ii. Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD.	EB 39	Ann 10	All calculations are transparent and easy to follow up.	OK	OK
iii. Justify and/or cite assumptions.	EB 39	Ann 10	All assumptions are cited and justified.	OK	OK



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iv. In calculating the financial/economic indicator, the project's risks can be included through the cash flow pattern, subject to project-specific expectations and assumptions.	EB 39	Ann 10	The project risks are taken into consideration in the sensitivity analysis.	OK	OK
v. Assumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.	EB 39	Ann 10	There is no unexpected figures the analysis inputs considering the project size and etc.	OK	OK
vi. Present in the CDM-PDD a clear comparison of the financial indicator for the proposed CDM activity. Please specify details for above.	EB 39	Ann 10	The calculated IRR is compared by a benchmark set by the CAPM in which country risk premium is added to the risk free rate.	OK	OK
r. Has the below guideline followed for Sub-step 2d: Sensitivity analysis (only applicable to Options II and III)? Include a sensitivity analysis that shows whether the conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.	EB 39	Ann 10	Sensitivity analysis shows that the financial/economic attractiveness is robust to reasonable variations in the critical assumptions. However, no scenario in the sensitivity analysis makes the project attractable.	OK	OK
s. Has the outcome of Step 2 clearly mentioned with justification?	EB 39	Ann 10	The outcome of Step2 is that the project is not attractive without the carbon revenue.		
t. In step 3: Barrier analysis have all the sub-steps as below been followed?	EB 39	Ann 10	Barrier analysis is used.	OK	OK
i. Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project activity;	EB 39	Ann 10	Barriers have been identified.	OK	OK
ii. Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity).	EB 39	Ann 10	The barriers explained are specific to renewable energy projects in general and to WPPs in particular. They do not apply to thermal power plants.	OK	OK
u. Has the below guideline followed for Sub-step 3a: Identify barriers that would prevent the implementation of the proposed CDM project?	EB 39	Ann 10		OK	OK
i. (a) Investment barriers: For alternatives undertaken	EB 39	Ann	"Most of the private companies in Turkey have little	CAR-5	OK



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and operated by private entities: Similar activities have only been implemented with grants or other non-commercial finance terms. No private capital is available from domestic or international capital markets due to real or perceived risks associated with investment in the country where the proposed CDM project activity is to be implemented, as demonstrated by the credit rating of the country or other country investments reports of reputed origin.		10	experience and know-how in the management and operation of WPPs” and “financial institutions in the country lack the technical capacity and know-how to assess such projects to ensure the output from them” are given as barriers. Please explain with objective evidences that these barriers existed at time of investment decision and that these barriers prevented the implementation of the project. Costs associated with “difficulties” could be included in IRR analysis. There is also a percentage for unexpected costs in IRR. Besides this, extra unexpected costs could only be considered if they result in a pause in the project (if it can be documented).		
ii. (b) Technological barriers: Skilled and/or properly trained labour to operate and maintain the technology is not available in the relevant country/region, which leads to an unacceptably high risk of equipment disrepair and malfunctioning or other underperformance; Lack of infrastructure for implementation and logistics for maintenance of the technology, Risk of technological failure: the process/technology failure risk in the local circumstances is significantly greater than for other technologies that provide services or outputs comparable to those of the proposed CDM project activity, as demonstrated by relevant scientific literature or technology manufacturer information, The particular technology used in the proposed project activity is not available in the relevant region.	EB 39	Ann 10	During site visit it was told to the validation team that TEDAS would construct the transmission line. Please clarify.		
			Please clarify how the transmission line prevents the projects from being implemented.	CAR-5	OK



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iii. (c) Barriers due to prevailing practice: The project activity is the “first of its kind”.	EB 39	Ann 10	N/A	OK	OK
iv. (d) Other barriers, preferably specified in the underlying methodology as examples.	EB 39	Ann 10	Please clarify how the bureaucratic barriers prevent the implementation of the project.	CAR-5	OK
v. Has the outcome from Step 3a clearly mentioned in PDD?	EB 39	Ann 10	Outcome of step 3 a is not clearly mentioned. Please clarify.	CL-9	OK
w. Has the below guideline followed for Sub-step 3 b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity)?	EB 39	Ann 10		OK	OK
i. If the identified barriers also affect other alternatives, explain how they are affected less strongly than they affect the proposed CDM project activity. In other words, demonstrate that the identified barriers do not prevent the implementation of at least one of the alternatives. Any alternative that would be prevented by the barriers identified in Sub-step 3a is not a viable alternative, and shall be eliminated from consideration.	EB 39	Ann 10	The barriers explained above are specific to renewable energy projects in general and to WPPs in particular. They do not apply to thermal power plants.	OK	OK
ii. Provide transparent and documented evidence, and offer conservative interpretations of this documented evidence, as to how it demonstrates the existence and significance of the identified barriers and whether alternatives are prevented by these barriers.	EB 39	Ann 10	Please provide references for the discussion in sub-step 3b.	CL-10	OK
iii. The type of evidence to be provided should include at least one of the following: (a) Relevant legislation, regulatory information or industry norms; (b) Relevant (sectoral) studies or surveys (e.g. market surveys, technology studies, etc) undertaken by universities, research institutions, industry	EB 39	Ann 10	Please provide references for the discussion in sub-step 3b.	CL-10	OK



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associations, companies, bilateral/multilateral institutions, etc; (c) Relevant statistical data from national or international statistics; (d) Documentation of relevant market data (e.g. market prices, tariff rules); (e) Written documentation of independent expert judgments from industry, educational institutions (e.g. universities, technical schools, training centres), industry associations and others. Please specify.					
x. Has the outcome from Step 3 clearly mentioned in PDD?	EB 39	Ann 10	Please state outcome of step 3 clearly.	OK	OK
y. In step 4: Common practise analysis have all the sub-steps as below followed?	EB 39	Ann 10		OK	OK
i. Sub-step 4a: Analyze other activities similar to the proposed project activity;	EB 39	Ann 10	Similar activities have been analyzed.	OK	OK
ii. Sub-step 4b: Discuss any similar Options that are occurring.	EB 39	Ann 10	Similar options have been discussed	OK	OK
z. Has the below guideline followed for Sub-step 4a: Analyze other activities similar to the proposed project activity? Provide an analysis of any other activities that are operational and that are similar to the proposed project activity. Other CDM project activities are not to be included in this analysis. Provide documented evidence and, where relevant, quantitative information. On the basis of that analysis, describe whether and to which extent similar activities have already diffused in the relevant region.	EB 39	Ann 10	Please discuss with more details the similar activities. Please define the boundary of common practice analysis. Please provide a reference for similar activities.	CAR-6	OK
aa. Has the below guideline followed for Sub-step 4b: Discuss any similar Options that are occurring? If similar activities are identified, then it is necessary to demonstrate why the existence of these activities does not contradict the claim that the proposed project	EB 39	Ann 10	Please discuss the similar options regarding size, type, location etc of the project.	CAR-6	OK



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activity is financially/economically unattractive or subject to barriers. This can be done by comparing the proposed project activity to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive (e.g., subsidies or other financial flows) and which the proposed project activity cannot use or did not face the barriers to which the proposed project activity is subject. In case similar projects are not accessible, the PDD should include justification about non-accessibility of data/information.					
bb. Has the outcome from Step 4 clearly mentioned in PDD?	EB 39	Ann 10	Outcome is expressed as: the electricity generation from WPP business is not a common practice, especially without VER revenues	OK	OK
cc. Has it been proved that the project is additional?	EB 39	Ann 10	Project is additional.	OK	OK
a. Prior consideration of the clean development mechanism					
a. Is the project activity start date prior to the date of publication of the PDD for stakeholder comments?	VVM	98	Please include a timeline which shows the milestones of the project so that it can be checked which date is the adequate start date. Please describe how the start date is determined. Please show objective evidence for prior consideration of VER revenues.	CAR-2	OK
b. If yes, were the CDM benefits considered necessary in the decision to undertake the project as a proposed CDM project activity?	VVM	98	Contract with consultant is signed before the construction start date. VER revenues are considered beforehand.	OK	OK
c. Is the start date of the project activity, reported in the PDD, in accordance with the "Glossary of CDM terms", which states that "The starting date of a CDM project activity is the earliest date at which either the	VVM	99	Please refer to CAR-2		



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implementation or construction or real action of a project activity begins.”?					
d. Does the project activity require construction, retrofit or other modifications?	VVM	99	Project requires construction.	OK	OK
e. If yes, is it ensured that the date of commissioning cannot be considered as the project activity start date?	VVM	99	Please refer to CAR-2		
f. Is it a new project activity (a project activity with a start date on or after 02 August 2008) or an existing project activity (a project activity with a start date before 02 August 2008)?	VVM	100	Project is new.	OK	OK
g. For a new project, for which PDD has not been published for global stakeholder consultation or a new methodology proposed to the CDM Executive Board before the project activity start date, had PPs informed the host Party DNA and the UNFCCC secretariat in writing of the commencement of the project activity and of their intention to seek CDM status? (Provide reference to such confirmation from host Party DNA and UNFCCC secretariat).	VVM	101	N/A	OK	OK
h. For an existing project activity, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are the following evidences provided:	VVM	102	N/A	OK	OK
ii. evidence that must indicate that awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project, including, inter alia:	VVM	102	N/A	OK	OK
a. minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a	VVM	102	N/A	OK	OK


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proposed CDM project activity?					
iii. reliable evidence from project participants that must indicate that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation, including, inter alia:	VVM	102	N/A	OK	OK
a. contract with consultants for CDM/PDD/methodology services?	VVM	102	N/A	OK	OK
b. Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds)?	VVM	102	N/A	OK	OK
c. evidence of agreements or negotiations with a DOE for validation services?	VVM	102	N/A	OK	OK
d. submission of a new methodology to the CDM Executive Board?	VVM	102	N/A	OK	OK
e. publication in newspaper?	VVM	102	N/A	OK	OK
f. interviews with DNA?	VVM	102	N/A	OK	OK
g. earlier correspondence on the project with the DNA or the UNFCCC secretariat?	VVM	102	N/A	OK	OK
h. Has the chronology of events including time lines been appropriately captured and explained/detailed in the PDD?	VVM	102	N/A	OK	OK
b. Identification of alternatives					
a. Does the approved methodology that is selected by the proposed CDM project activity prescribe the baseline scenario and hence no further analysis is required?	VVM	105	Yes, the approved methodology that is selected by the proposed VER project activity prescribes the baseline scenario. No further analysis is required.	OK	OK
b. If no, does the PDD identify credible alternatives to the project activity in order to determine the most realistic baseline scenario?	VVM	105	No, baseline is clearly described. There is no need for determining alternatives.	OK	OK
c. Does the list of alternatives given in the PDD ensure	VVM	106		OK	OK



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that:					
i. the list of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed CDM project activity?	VVM	106	List of alternatives includes as one of the options that the project activity is undertaken without being registered as a proposed GD VER project activity	OK	OK
ii. the list contains all plausible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the proposed CDM project activity?	VVM	106	The list contains all plausible alternatives.	OK	OK
iii. the alternatives comply with all applicable and enforced legislation?	VVM	106	Providing information about required permits and regulations, please discuss the projects and alternatives consistency with mandatory laws and regulations.	CL-8	OK
c. Investment analysis					
a. Has investment analysis been used to demonstrate the additionality of the proposed CDM project activity?	VVM	108	Investment analysis been used to demonstrate the additionality of the proposed CDM project activity.	OK	OK
b. If yes, does the PDD provide evidence that the proposed CDM project activity would not be:	VVM	108		OK	OK
i. the most economically or financially attractive alternative?	VVM	108	The project is not the most economically or financially attractive alternative?	OK	OK
ii. economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	VVM	108	The project is not economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)?	OK	OK
c. Was this shown by one of the following approaches?	VVM	109	<i>Please see below</i>		
i. The proposed CDM project activity would produce no financial or economic benefits other than CDM-related income. Document the costs associated with the proposed CDM project activity and the alternatives identified and	VVM	109	N/A	OK	OK



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demonstrate that there is at least one alternative which is less costly than the proposed CDM project activity.					
ii. The proposed CDM project activity is less economically or financially attractive than at least one other credible and realistic alternative.	VVM	109	N/A	OK	OK
iii. The financial returns of the proposed CDM project activity would be insufficient to justify the required investment.	VVM	109	IRR calculation shows that project is not economically feasible.	OK	OK
d. Is the period of assessment limited to the proposed crediting period of the CDM project activity?	EB 51	Ann 58	The analysis is done both for 48 years and it is not limited to the crediting period.	OK	OK
e. Does the project IRR and equity IRR calculations reflect the period of expected operation of the underlying project activity (technical-lifetime), or - if a shorter pe-iod is chosen - include the fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	The analysis period reflects the technical life of the project activity. The analysis is done for a period of 46+3 years and there is no need to calculate fair value because all assets are depreciated during the analysis period.	OK	OK
f. Does the IRR calculation include the cost of major maintenance and/or rehabilitation if these are expected to be incurred during the period of assessment?	EB 51	Ann 58	All necessary cost items are included in the analysis.	OK	OK
g. Do the project participants justify the appropriateness of the period of assessment in the context of the underlying project activity, without reference to the proposed CDM crediting period?	EB 51	Ann 58	Please define technical lifetime of the turbines and clarify if there is any equipment renewal costs.	CAR-15	OK
h. Does the cash flow in the final year include a fair value of the project activity assets at the end of the assessment period?	EB 51	Ann 58	The fair value is calculated as 0.	OK	OK
i. Has the fair value been calculated in accordance with local accounting regulations where available, or international best practice?	EB 51	Ann 58	Fair value calculation is in line with the local accounting principles.	OK	OK
j. Does the fair value calculations include both the book	EB 51	Ann	Potential profit or loss is not taken into consideration.	OK	OK



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value of the asset and the reasonable expectation of the potential profit or loss on the realization of the assets?		58	Accounting based calculations are done.		
k. Was depreciation, and other non-cash items related to the project activity, which have been deducted in estimating gross profits on which tax is calculated, added back to net profits for the purpose of calculating the financial indicator (e.g. IRR, NPV)?	EB 51	Ann 58	Tax is a cash outflow item in the analysis.	OK	OK
l. Has taxation been included as an expense in the IRR/NPV calculation in cases where the benchmark or other comparator is intended for post-tax comparisons?	EB 51	Ann 58	Tax is a cash outflow item in the analysis.	OK	OK
m. Are the input values used in all investment analysis valid and applicable at the time of the investment decision taken by the project participant?	EB 51	Ann 58	No extraordinary figure is noticed in terms of being up-to-date at the time of investment.	OK	OK
n. Is the timing of the investment decision consistent and appropriate with the input values?	EB 51	Ann 58	The investment decision date is given in PDD clearly.	OK	OK
o. Are all the listed input values been consistently applied in all calculations?	EB 51	Ann 58	The input values have been consistently applied in the calculations	OK	OK
p. Does the investment analysis reflect the economic decision making context at point of the decision to recommence the project in the case of project activities for which implementation ceases after the commencement and where implementation is recommenced due to consideration of the CDM?	EB 51	Ann 58	As validated through the site; the implementation has not ceased after the commencement	OK	OK
q. Have project participants supplied the spreadsheet versions of all investment analysis?	EB 51	Ann 58	All necessary spreadsheets are supplied.	OK	OK
r. Are all formulas used in this analysis readable and all relevant cells be viewable and unprotected?	EB 51	Ann 58	All formulas used in this analysis are readable and all relevant cells are viewable and they are unprotected.	OK	OK
s. In cases where the project participant does not wish to make such a spreadsheet available to the public has the PP provided an exact read-only or PDF copy for	EB 51	Ann 58	N/A	OK	OK



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general publication?					
t. In case the PP wishes to black-out certain elements of the publicly available version, is it justifiable?	EB 51	Ann 58	N/A	OK	OK
u. Was the cost of financing expenditures (i.e. loan repayments and interest) included in the calculation of project IRR?	EB 51	Ann 58	Equity IRR calculation is done and all financing expenditures are included in the analysis.	OK	OK
v. In the calculation of equity IRR, has only the portion of investment costs which is financed by equity been considered as the net cash outflow?	EB 51	Ann 58	Only Equity financing is used as a cash inflow in the analysis to calculate the equity IRR	OK	OK
w. Has the portion of the investment costs which is financed by debt been considered a cash outflow in the calculation of equity IRR? (this is not allowed)	EB 51	Ann 58	The debt portion of the investment financing is not taken into equity IRR calculations.	OK	OK
x. Was a pre-tax benchmark be applied?	EB 51	Ann 58	The analysis is done based on the after tax values and the benchmark is applied accordingly.	OK	OK
y. In cases where a post-tax benchmark is applied, is actual interest payable taken into account in the calculation of income tax?	EB 51	Ann 58	Interest expenses are taken into consideration.	OK	OK
z. In such situations, was interest calculated according to the prevailing commercial interest rates in the region, preferably by assessing the cost of other debt recently acquired by the project developer and by applying a debt-equity ratio used by the project developer for investments taken in the previous three years?	EB 51	Ann 58	The interest is calculated by the commercial interest rates agreed with the bank.	OK	OK
aa. In cases where a benchmark approach is used is the applied benchmark appropriate to the type of IRR calculated?	EB 51	Ann 58	The benchmark is appropriate to the calculated IRR.	OK	OK
bb. Has local commercial lending rates or weighted average costs of capital (WACC) selected as appropriate benchmarks for a project IRR?	EB 51	Ann 58	Equity IRR is calculated.	OK	OK
cc. Has required/expected returns on equity selected as appropriate benchmark for an equity IRR?	EB 51	Ann 58	Appropriate benchmark is used to compare with the equity IRR.	OK	OK
dd. In case benchmarks supplied by relevant national	EB 51	Ann	N/A	OK	OK



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authorities selected is it applicable to the project activity and the type of IRR calculation presented?		58			
ee. In the cases of projects which could be developed by an entity other than the project participant is the benchmark applied based on publicly available data sources which can be clearly validated?	EB 51	Ann 58	N/A	OK	OK
ff. Have internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average c-st of capital - WACC) been applied in cases where there is only one possible project developer?	EB 51	Ann 58	N/A	OK	OK
gg. In such cases, have these values been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region?	EB 51	Ann 58	N/A	OK	OK
hh. Has a minimum clear evidence of the resolution by the company's Board and/or shareholders been provided to the effect as above?	EB 51	Ann 58	N/A	OK	OK
ii. Has a thorough assessment of the financial statements of the pro-ect developer - including the-proposed WACC - to assess the past financial behavior of the entity during at least the last 3 years in relation to similar projects been conduted?	EB 51	Ann 58	N/A	OK	OK
jj. Does the risk premiums applied in the determination of required returns on equity reflect the risk profile of the project activity being assessed, established according to national/international accounting principles? (It is not considered reasonable to apply the rate general stock market returns as a risk premium for project activities that face a different risk	EB 51	Ann 58	Country risk is taken into calculations to obtain benchmark. Beta is taken as 0,939 which can be acceptable.	OK	OK



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profile than an investment in such indices.)					
kk. Has an investment comparison analysis and not a benchmark analysis used when the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services?	EB 51	Ann 58	The baseline does not leave project participant no other choice than to make an investment to supply the same (or substitute) products or services; hence the checklist question is not applicable.	OK	OK
ll. Have variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues been subjected to reasonable variation (positive and negative) and the results of this variation been presented in the PDD and be reproducible in the associated spreadsheets?	EB 51	Ann 58	All variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues been subjected to reasonable variation (positive and negative) and the results of this variation been presented in the PDD and be reproducible in the associated spreadsheets.	OK	OK
mm. Have a corrective action been raised for a variable to be included in the sensitivity analysis which constitute less than 20% and have a material impact on the analysis ?	EB 51	Ann 58	There is no more parameter needed to be included in the sensitivity analysis which constitute less than 20% and have a material impact on the analysis.	OK	OK
nn. Is the range of variations selected is reasonable in the project context?	EB 51	Ann 58	10% of variations are reasonable to see the project risks.	OK	OK
oo. Dos the variations in the sensitivity analysis at least cover a range of +10% and -10%, unless this is not deemed appropriate in the context of the specific project circumstances?	EB 51	Ann 58	The sensitivity analysis and obtained results are appropriate. There is nothing to do more.	OK	OK
pp. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative, is an assessment done of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity?	EB 51	Ann 58	All scenarios in the sensitivity analysis can happen by one by or together. There is no major exception expected due to the correlation impact or the probability occurrence.	OK	OK


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qq. Was the plant load factor defined ex-ante in the CDM-PDD according to one of the following options:	EB 48	Ann 11	As this is a wind project, there is no load factor.	OK	OK
i. The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval?	EB 48	Ann 11	N/A	OK	OK
ii. The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)?	EB 48	Ann 11	N/A	OK	OK
rr. Was a thorough assessment of all parameters and assumptions used in calculating the relevant financial indicator, and determine the accuracy and suitability of these parameters using the available evidence and expertise in relevant accounting practices conducted?	VVM	111	All parameters and assumptions used in calculating the relevant financial indicator are verified. The accuracy and suitability of these parameters are checked. All relevant accounting practices conducted are determined.	OK	OK
ss. Were the parameters cross-checked against third-party or publicly available sources, such as invoices or price indices?	VVM	111	All financial figures are cross checked (Exchange rate, tax rate, risk premium etc)	OK	OK
tt. Were feasibility reports, public announcements and annual financial reports related to the proposed CDM project activity and the project participants reviewed?	VVM	111	They all are reviewed.	OK	OK
uu. Was the correctness of computations carried out and documented by the project participants assessed?	VVM	111	The correctness of computations is checked.	OK	OK
vv. Was the sensitivity analysis by the project participants to determine under what conditions variations in the result would occur, and the likelihood of these conditions assessed?	VVM	111	There is no need to do further improvement in the sensitivity analysis.	OK	OK
ww. Is the type of benchmark applied is suitable for the type of financial indicator presented?	VVM	112	The benchmark calculation is suitable for the IRR calculation	OK	OK
xx. Do any risk premiums applied determining the benchmark reflect the risks associated with the project	VVM	112	Country risk is taken into calculations to obtain benchmark.	OK	OK



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type or activity?					
yy. To determine this, was it assessed whether it is reasonable to assume that no investment would be made at a rate of return lower than the benchmark by:	VVM	112	<i>Please see below</i>	OK	OK
i. assessing previous investment decisions by the project participants involved?	VVM	112	Previous investment decisions by the project participants are not taken into consideration to evaluate the performance of current project	OK	OK
ii. determining whether the same benchmark has been applied?	VVM	112	N/A	OK	OK
iii. determining if there are verifiable circumstances that have led to a change in the benchmark?	VVM	112	The benchmark used to compare the IRR calculated is assumed to be not change.	OK	OK
zz. Did the project participants rely on values from Feasibility Study Reports (FSR) that are approved by national authorities for proposed CDM project activities?	VVM	113	Please provide a table of IRR inputs clearly indicating --input name --input value --name of reference document --page/column number of related value Please include all costs, all financial inputs like loan terms and CAPM inputs.	CAR-7	OK
			Some parameters like annual generation are to be used different in the IRR and PDD. Please summarise these data in sub step 2.c.	CL-23	OK
xx. If yes:	VVM	113		OK	OK
i. has the FSR been the basis of the decision to proceed with the investment in the project, i.e. that the period of time between the finalization of the FSR and the investment decision is sufficiently short for the DOE to confirm that it is unlikely in the context of the underlying project	VVM	113	There is no big gap between the input values of the project on investment decision date and the realized values.	OK	OK



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activity that the input values would have materially changed?					
ii. Are the values used in the PDD and associated annexes fully consistent with the FSR?	VVM	113	The values presented in PDD are in line with the FSR.	OK	OK
iii. If not, was the appropriateness of the values validated?	VVM	113	N/A	OK	OK
iv. On the basis of its specific local and sectoral expertise, is confirmation provided, by cross-checking or other appropriate manner, that the input values from the FSR are valid and applicable at the time of the investment decision?	VVM	113	The input values are validated by DOE.	OK	OK
d. Barrier analysis					
a. Has barrier analysis been used to demonstrated the additionality of the proposed CDM project activity?	VVM	115	Barrier analysis is used.	OK	OK
b. If yes, does the PDD demonstrate that the proposed CDM project activity faces barriers that:	VVM	115	Please refer to CAR-42	OK	OK
i. prevent the implementation of this type of proposed CMD project activity?	VVM	115	Please refer to CAR-42	OK	OK
ii. do not prevent the implementation of at least one of the alternatives?	VVM	115	Please refer to CAR-42	OK	OK
c. Are there any issues that have a clear direct impact on the financial returns of the project activity, other than: risk related barriers, for example risk of technical failure, that could have negative effects on the financial performance; or barriers related to the unavailability of sources of finance for the project activity? {If yes, these issues cannot be considered	VVM	116	No, there are no such barriers.	OK	OK



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barriers and shall be assessed by investment analysis. [Refer to (6.c) above]}					
d. Were the barriers determined as real by:	VVM	117		OK	OK
i. assssing the available evidence and/or undertaking interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist?	VVM	117	None of the barriers have been validated with this method	OK	OK
ii. ensuring that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	VVM	117	None of the barriers have been validated with this method	OK	OK
iii. Is existence of a barrier substantiated only by the opinions of the project participants? (If yes, this barrier cannot be considered as adequately substantiated)	VVM	117	The PO is asked to clarify the claimed barriers.	OK	OK
e. Were the barriers determined as preventing the implementation of the project activity but not the implementation of at least one of the possible alternatives by applying local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of at least one of the possible alternatives, in particular the identified baseline scenario?	VVM	117	The barriers are not preventing the implementation of the thermal power plant alternative.	OK	OK
e. Common practice analysis					
a. Is this a proposed large-scale, or first-of-its kind small-scale project activity?	VVM	119	Project is large scale.	OK	OK
b. If yes, was common practice analysis carried out as a	VVM	119	Common practice analysis was carried out	OK	OK



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credibility check of the other available evidence used by the project participants to demonstrate additionality?					
c. Was it assessed whether the geographical scope (e.g. defined region) of the common practice analysis is appropriate for the assessment of common practice related to the project activity's technology or industry type? (For certain technologies the relevant region for assessment will be local and for others it may be transnational/global.	VVM	120	Please define the boundary for common practice analysis.	CAR-8	OK
d. Was a region other than the entire host country chosen?	VVM	120	Please define the boundary of common practice analysis.	CAR-8	OK
e. If yes, was the explanation why this region is more appropriate assessed?	VVM	120	No region other than the host country was chosen. Hence, this checklist question is N/A.	OK	OK
f. Using official sources and local and industry expertise, was it determined to what extent similar and operational projects (e.g., using similar technology or practice), other than CDM project activities, have been undertaken in the defined region?	VVM	120	To what extent similar and operational projects have been undertaken in the region is determined using the official data from the websites of TEIAS and EPDK which are the only reliable sources in the host country.	OK	OK
g. Are similar and operational projects, other than CDM project activities, already "widely observed and commonly carried out" in the defined region?	VVM	120	The low rate of completion of the projects and the low contribution privately held wind power projects and in addition to these, the similar WPP projects which benefit from VER revenues proves that the electricity generation from WPP business is not a common practice, especially without VER revenues	OK	OK
h. If yes, was it assessed whether there are essential distinctions between the proposed CDM project activity and the other similar activities?	VVM	120	N/A	OK	OK
7. Monitoring plan					
a. Does the PDD include a monitoring plan?	VVM	122	Yes, the monitoring plan is included in the PDD:	OK	OK
b. Is this monitoring plan based on the approved monitoring methodology applied to the proposed CDM	VVM	122	Monitoring plan is based on the approved monitoring methodology.	OK	OK



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project activity?					
c. Were the list of parameters required by the the selected methodology identified?	VVM	123	Electricity generation data is monitored continuously, installed capacity and EF grid are monitored annually and for each crediting period.	OK	OK
d. Does the monitoring plan contains all necessary parameters?	VVM	123	Monitoring plan includes information about measurement methods, calibration and responsibilities.	OK	OK
e. Are the parameters clearly described?	VVM	123	Parameters are clearly described.	OK	OK
f. Does the means of monitoring described in the plan comply with the requirements of the methodology?	VVM	123	All information required by the methodology is provided.	OK	OK
g. Are all data and parameters monitored as per monitoring methodology?	ACM	0002 v.11	Data and parameters are monitored as per monitoring methodology	OK	OK
h. Are all data collected as part of monitoring archived electronically and kept at least for 2 years after the end of the last crediting period?	ACM	0002 v.11	The data will be collected and stored by PEM not only during the crediting period but also two years after the last issuance of GS VERs to Killik WPP project for that crediting period.	OK	OK
i. Are 100% of the data monitored, if not indicated otherwise?	ACM	0002 v.11	% 100 of the data will be monitored.	OK	OK
j. Are measurements conducted with calibrated measurement equipment according to relevant industry standards?	ACM	0002 v.11	The recalibration of these equipments will be done in line with the equipment requirements but re-calibration periods are defined by national metrology institutes country by country and in Turkey this period is defined as 10 years. If there is a measuring difference between these two meters and one of the parties (TEIAS or the company) requests for calibration of the meters, in this case, the meters will be calibrated without waiting for the periodic calibration date. (TEIAS System Usage Agreement, Art 3, B./2./b)) This calibration process is done by another third party under the control of TEIAS. The company is not responsible for calibration of the meters in Turkey according to the local standards.	OK	OK
			While operating the meters for the first time, a protocol will be signed for initial acceptance of the meters.	CL-11	OK


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			Please provide a copy of this document to DOE when it is available.		
k. Are the monitoring provisions in the tools referred to in the methodology correctly applied?	ACM	0002 v.11	Monitoring is correctly applied.	OK	OK
l. Are the monitoring arrangements described in the monitoring plan feasible within the project design?	VVM	123	Monitoring is feasible.	OK	OK
m. Are the following means of implementation of the monitoring plan sufficient to ensure that the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified:	VVM	123		OK	OK
i. data management procedures?	VVM	123	Data management procedures are sufficient	OK	OK
ii. quality assurance procedures?	VVM	123	For quality all regulations are implemented.	OK	OK
iii. quality control procedures?	VVM	123	For quality all regulations are implemented.	OK	OK
8. Sustainable development					
a. Does the CDM project activity assists Parties not included in Annex I to the Convention in achieving sustainable development?	VVM	125	Turkey is not a host party. This question is not applicable.	OK	OK
b. Does the letter of approval by the DNA of the host Party confirm the contribution of the proposed CDM project activity to the sustainable development of the host Party?	VVM	126	Turkey is not a host party, it does not have a DNA. This question is not applicable.	OK	OK
9. Local stakeholder consultation					
a. Were local stakeholders (public, including individuals, groups or communities affected, of likely to be affected, by the proposed CDM project activity or actions leading to the implementation of such an activity) invited by the PPs to comment on the proposed CDM project activity prior to the publication of the PDD on the UNFCCC website?	VVM	128	Yes, stakeholders were invited for a meeting and comment on the proposed project activity.	OK	OK
			PDD has not been published on the GS website yet (as	CL-12	OK



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CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			by 17/03/2011). Please clarify.		
b. Have comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity been invited?	VVM	129	Yes, stakeholders were invited to comment on the proposed project activity.	OK	OK
c. Is the summary of the comments received as provided in the PDD complete?	VVM	129	LSC comments received are included in the LSC Report.	OK	OK
d. Have the project participants taken due account of any comments received and described this process in the PDD?	VVM	129	Based on the comments from stakeholders, there is no need to make any alterations on the project design. The company will take all the precautions about the concerns of the stakeholders such as wastes, dust emissions etc, and will try to do its best to provide contributions to the region. The company will give priority to the local labour force and provide in kind contributions for infrastructure improvements upon the requests of the stakeholders, if possible.	OK	OK
10. Environmental impacts					
a. Have the project participants submitted documentation on the analysis of the environmental impacts of the project activity?	VVM	131	Please provide EIA report to DOE.	CAR-9	OK
b. Have the project participants undertaken an analysis of environmental impacts?	VVM	132	Since Killik WPP project is a wind power plant project with an installed capacity of more than 10 MW, the project is assessed under Annex-II List of the EIA Regulation and therefore a Project Description Report was prepared for the project by MIMKO Engineering Construction Manufacturing Consulting & Trade Corp. on December 2009 respectively. As a result of these reports, the project obtained the "EIA not required" Letter from Tokat Provincial Directorate of Environment and Forestry on December 28, 2009.	OK	OK
c. Does the host Party require an environmental impact assessment?	VVM	132	Please refer above.	OK	OK



VALIDATION REPORT

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
d. If yes, have the project participants undertaken an environmental impact assessment?	VVM	132	Please refer above.	OK	OK



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TABLE 2 – Validation requirements based on the Gold Standard Passport Requirements (version 2.1)

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
A. Project Title				
a. Is the Project title given in the Passport the same as in the PDD?	T-1.6	Titles are in accordance.	OK	OK
B. Project Description				
a. Is the Project description given in the Passport consistent with the one given in the PDD?	T-1.6	Descriptions are in line with each other. Please provide mechanical contract and license as objective evidences for the information in project description.	CL-13	OK
b. Has the estimated start date of construction been given under the Project description?		Please include estimated start date of construction and commissioning in GSP.	CL-14	OK
C. Proof of project eligibility				
C.1. Scale of Project				
a. Has the scale of the Project activity been defined as per Gold Standard Toolkit Section 1.2.1?	T-1.2.1	Project is large scale.	OK	OK
b. Does the project proponent have a written statement (e.g. in the PDD) against de-bundling of the project? (De-bundling of small and large-scale projects to create micro-scale projects is not allowed).	T-3.5.1	N/A	OK	OK
C.2. Host Country				
a. Does the host country have cap on its GHG emissions?	T-1.2.2	As explained in Section C2, Turkey is the host country and it has no cap.	OK	OK
b. If the answer to the above question is yes, then has the Project proponent provided an official approval from the relevant local authorities stating that an equivalent amount of allowances will be retired to back-up the GS VERs issued?	T-1.2.2	N/A	OK	OK
c. If the host country does not have a cap on its GHG emissions, has it been stated in the Passport?	T-1.2.2	As explained in Section C2, Turkey is the host country and it has no cap.	OK	OK



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CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
C.3. Project Type				
a. Is the Project a Renewable Energy Supply Project or an End-use Energy Efficiency Improvement Project? (If not, the validation has to be aborted)	T-1.2.3	Project is a Renewable Energy Supply Project.	OK	OK
b. Has the Project type and eligibility of the Project activity been defined as per Annex C of Gold Standard Toolkit?	T-1.2.3	Yes in line with GS toolkit, as a WPP project , project is eligible for Gold Satandard	OK	OK
c. Has a previous announcement of the project going ahead without the revenues from carbon credits been made?	T-1.2.3	No previous announcement of the project going ahead without the revenues from carbon credits has been made.	OK	OK
D. If the answer to the above question is yes, has the project subsequently been cancelled or the design has been significantly revised?	T-1.2.3	N/A	OK	OK
E. If the answlto question (c) is no, have the Project Proponents provided a pre-announcement statement under section C.3 in the Gold Standard Passport, attesting that no such previous announcement has been made?	T-1.2.3	Yes, it is indicated that "There has been no pre-announcement statement regarding the execution of the project without the inclusion of carbon revenues".	OK	OK
C.4. Greenhouse Gas				
a. Does the project reduce emissions of one or more of the following an GHG? Carbon dioxide, methane, nitrous oxide?	T-1.2.4	Project reduces CO2 emissions.	OK	OK
C.5. Project registration type				
a. Does the project apply the correct project cycle (regular vs. pre-feasibility assessment)?	T-3.5.1	Project applies to regular cycle.	OK	OK
b. Is the Project activity a regular registration?	T-1.2.5	Project applies to regular cycle.	OK	OK
c. Is the Project activity a retroactive registration?	T-1.2.5	No	OK	OK
d. If the answer to the above question is yes, has the Project proponents applied to the Gold Standard for the pre-feasibility assessment?	T-1.2.5	N/A	OK	OK
e. If the answer to the above question is yes, then has the Project proponent provided the Gold Standard pre-feasibility assessment feedback to the DOE?	T-1.2.5	N/A	OK	OK
f. Does the Project activity need preliminary evaluation?	T-1.2.5	N/A	OK	OK



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CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
(Large hydro or palm-oil related project)				
g. If the answer to the above question is yes, has the Project proponents applied to the Gold Standard for the pre-feasibility assessment?	T-1.2.5	N/A	OK	OK
h. If the answer to the above question is yes, then has the Project proponent provided the Gold Standard pre-feasibility assessment feedback to the DOE?	T-1.2.5	N/A	OK	OK
i. Has the Project activity been rejected by UNFCCC?	T-1.2.5	No, Project activity has not been rejected by UNFCCC.	OK	OK
j. If the answer to the above question is yes, has the Project proponents applied to the Gold Standard for the pre-feasibility assessment?	T-1.2.5	N/A	OK	OK
k. If the answer to the above question is yes, then has the Project proponent provided the Gold Standard pre-feasibility assessment feedback to the DOE?	T-1.2.5	N/A	OK	OK
l. Are there any double counting occurring with other certification schemes?	T-3.5.1	The only other mechanism of carbon crediting in Turkey other than GS is VCS. A search in VCS registry retrieves no results. There is no double counting.	OK	OK
F. Unique project identification				
D.1. GPS-coordinates of Project location				
a. Has the Project proponent stated the exact GPS coordinates of Project location for point source activities and the boundaries for projects spread over a broader area?	T-1.6	Coordinates are provided. Coordinates read during site visit are in accordance with the ones provided.	OK	OK
b. For Programme of Activity projects have the Project Proponent explained the reasoning behind the definition of the project location and coordinates carefully?	T-1.6	This is not a Programme of Activity project.	OK	OK
D.2. Map				
a. Have the coordinates been illustrated with a map? (Optional)	T-1.6	Detailed maps are presented in the PDD.	OK	OK
G. Outcome stakeholder consultation process				



VALIDATION REPORT

CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
E.1. Assessment of stakeholder comments				
a. Has the Project proponent inserted the "Table ii- Assessment of Stakeholder Comments" in section B5 of the Stakeholder Consultation Report?	Annex R, E.1	"Assessment of Stakeholder Comments" table has been inserted. Comments are about project location, posture, animal grazing, benefits and harms of the project.	OK	OK
b. Has the Project proponent inserted a summary of alterations based on stakeholders comments?	Annex R, E.1	Based on the comments from stakeholders, there is no need to make any alterations on the project design. The company will take all the precautions about the concerns of the stakeholders such as wastes, dust emissions etc, and will try to do its best to provide contributions to the region. The company will give priority to the local labour force and provide in kind contributions for infrastructure improvements upon the requests of the stakeholders, if possible.	OK	OK
c. Has an invitation tracking table been filled out?	T-3.5.1	Yes an invitation tracking table has been filled.	OK	OK
b. Are copies of invitations published/sent out available?	T-3.5.1	Copies of invitations are available in the LSC Report.	OK	OK
c. Has a non-technical summary in local language been included in the Local Stakeholder Consultation report, as well as an English summary?	T-3.5.1	Turkish version of nontechnical summary is attached as annex to LSC report.	OK	OK
d. Is a participant list presented?	T-3.5.1	Original participant list is presented.	OK	OK
e. Are stakeholder evaluation forms available?	T-3.5.1	Original forms are not available but questions and answers and evaluation of the comments have been typed into the LSC Report.	OK	OK
f. Are minutes of the meeting(s) available?	T-3.5.1	Minutes of the meeting are available in the LSC Report.	OK	OK
g. Has due account been made on comments received?	T-3.5.1	Based on the comments from stakeholders, there is no need to make any alterations on the project design. The company will take all the precautions about the concerns of the stakeholders such as wastes, dust emissions etc, and will try to do its best to provide contributions to the region. The company will give priority to the local labour force and provide in kind contributions for infrastructure	OK	OK



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CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
		improvements upon the requests of the stakeholders, if possible.		
h. If stakeholders required a revisit to the sustainable development assessment, has this been done?	T-3.5.1	Since the project does not have a negative impact on the environment and social life in the region. No negative comments received from the stakeholders. Therefore, there is no need to revisit the sustainable development assessment.	OK	OK
i. Is the consolidated sustainable development matrix presented based on own 'preliminary' scoring and the matrix from the outcome of the blind stakeholder exercise.	T-3.5.1	Yes, consolidated matrix is formed based on own 'preliminary' scoring and the matrix from the outcome of the blind stakeholder exercise.	OK	OK
j. Were comments accepted and received by email or other means actually considered?	T-3.5.1	There were no comments received by other means.	OK	OK
E.2. Stakeholder Feedback Round (Can be performed in parallel to the validation process)				
a. Has the Project proponent organized a stakeholder feedback round to give feedback to the stakeholders on how their comments have been taken into account?	T-2.11	Please provide updated information about SFR.	CL-15	OK
b. Did the stakeholder feedback round include a physical meeting? (optional)	T-2.11	The stakeholder feedback round does not include a physical meeting since the stakeholders have not required a revisit for the sustainable development assessment.	OK	OK
c. Have all the stakeholders invited for participation in the Local Stakeholder Consultation been included in the Stakeholder Feedback Round?	T-2.11	The stakeholder Feedback Round was started on April 1 st , 2011. The Gold Foundation, global Gold Standard Supporter NGOs, local NGOs were invited to the live meeting. The stakeholders from all categories suggested by Gold Standard were invited to the meeting. The sample invite e-mails have been submitted in LSC Report. Also invitation announcements were published on a local newspaper on 7 August 2010.	OK	OK
d. Have all of the following documents been made available to the public for a period of at least two months prior to completion of the validation: a. The Latest version of the complete PDD (including	T-3.5.1	Documents have been submitted to DOE.	OK	OK



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CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
the EIA, if applicable); b. A non-technical summary of the project (in appropriate local language(s)); and English summary. c. The (revised) Passport d. if applicable, supporting documentation such as an environmental impact assessment (EIA) (if available, in appropriate local language(s)); in the case of an EIA, at least a one-page English summary is required e. Additional, non-translated information must be made available as well and shall be translated to the local language upon any justified request of a stakeholder.				
e. Did the Project proponent also prepare hard copies to be publicly displayed at local places like the post Office, municipality, etc?	T-2.11	Project proponent also prepare hard copies to be publicly displayed at local places like Mukhtar's Office in the village.	OK	OK
f. If the Project is a retroactive Project, did the stakeholder feedback round include a site visit by the stakeholders participating in the process?	T-2.11	Project is not a retroactive project. Hence, this checklist question is N/A.	OK	OK
g. If the Project is a retroactive Project, did the Project proponent follow the guidance provided by the Gold Standard in the pre-feasibility assessment?	T-2.11	Project is not a retroactive project. Hence, this checklist question is N/A.	OK	OK
h. Does the stakeholder feedback round report given in the Passport include the following information: a. How the feedback round was organized (A description of the procedure followed to invite comments, including addressing all the details of the oral hearing such as place, date, participants, language, local or national Gold Standard NGO supporters, etc.), b. What the outcomes of the feedback round are (All written or oral comments received.)	T-3.5.1	a. All project documents were uploaded to Gold Standard Registry web site; and the Stakeholder Feedback Round was started on April 1st, 2011. The Gold standard Foundation, global Gold Standard supporter NGOS, local NGOs who were previously invited to the live meeting. Details are described in LSC report. b. During the Stakeholder Feedback Round, no comment was received from NGOs and other stakeholders, except local people. On the other	OK	OK



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CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
c. How did the Project proponents followed up on the feedbacks. (The argumentation on whether or not comments are taken into account and the respective changes to the project design.)		hand, no e-mail, fax or phone calls were received. Only, the local stakeholders provided their feedbacks. Outcomes of local stakeholders are given in the GS Passport. c. Under Assessment of stakeholder comments how comments taken into account has been described.		
H. Outcome Sustainability assessment				
F.1. 'Do no harm' Assessment				
a. Has the Project proponents considered the critical issues for their Project type that are listed in Annex C of Gold Standard?	T-2.4.1	Annex C has no issues for wind projects.	OK	OK
b. Have the Project participants discussed all of the safeguarding principles with the stakeholders?	T-2.4.1	Yes, all safeguarding principles have been discussed.	OK	OK
c. Have the Project participants introduced mitigation measures for the safeguarding principles with a medium to high risk?	T-2.4.1	Mitigation measures for the safeguarding principles have been introduced with a medium to high risk. Measures 8, 9 and 10 have low risk, others have no risk.	OK	OK
		Please provide training records and training plan that includes all subcontractors' personnel and own personnel to be employed during operation as per safeguarding principle 8.	CL-16	OK
		Signed forms that personal safety equipment are given to employees is presented to validation team.	OK	OK
d. Does the 'Do No Harm' Assessment base on accurate information and have the reference sources been included?	T-3.5.1	References have been included.	OK	OK
		Please provide objective evidences that safeguarding principle 9 is accomplished and projects shows compliance with regulations listed in section D.2 of the PDD.	CAR-10	OK
F.2. Sustainable Development matrix				
a. Has the Sustainable Development Matrix table been inserted in the Passport?	Annex R, F.2	Yes, the SDM is in the GSP.	OK	OK
b. Has the project been scored on the following indicators?:	T-2.4.2	Indicators have been classified accordingly.	OK	OK



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CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
a. Environmental b. Social c. Technological d. Economic				
c. Have the corresponding parameters to represent the status of each of the indicators been selected?	T-2.4.2	Please also define parameters for livelihood of the poor, human and institutional capacity.	CAR-11	OK
d. Is the baseline situation and the situation aimed for the project described for each parameter?	T-2.4.2	Please also define baseline for livelihood of the poor, human and institutional capacity	CAR-11	OK
e. Are the indicators connected to the localized MDG's (Milenium Development Goals) when possible?	T-2.4.2	Yes, indicators are connected to the localized MDG's (Milenium Development Goals).	OK	OK
f. Was the reason for choice of the parameters described?	T-2.4.2	Choice for parameters is explained.	OK	OK
g. Have all of the indicators been scored 'negative', 'positive' or 'neutral' in comparison with the baseline situation?	T-2.4.2	All parameters have been scored.	OK	OK
h. If there are any 'negative' indicators, are there any mitigation measures for these indicators?	T-2.4.2	There are no negative indicators.	OK	OK
i. Has the matrix been filled by the stakeholders during the Local Stakeholder Consultation?	T-2.4.2,	Yes, stakeholders filled the matrix, too.	OK	OK
j. Were there any negative scores duing the stakeholder consultation?	T-2.4.2	There are no negative comments.	OK	OK
k. If the answer to the above question is yes, has the sustainability assessment been revisited?	T-2.4.2	N/A	OK	OK
l. Have the project indicators been classified in three categories namely "environment", "social development" and "economic and technological development" under the sustainable development matrix?		Indicators have been classified accordingly.	OK	OK
m. Does the project contribute positively to least at two of the three categories and neutral to the third category?	T-2.4.2,	Yes, project contributes positively to "social development" and "economic and technological development" categories.	OK	OK
n. Is the matrix based on existing sources of information? (can include data from existing reports, results from stakeholder consultations, and experiences with similar projects in	T-3.5.1	Matrix is based on valid references.	OK	OK



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CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
similar situations, etc. Where data are unavailable or are of poor quality, or severely outdated, independent opinions and expert judgments can also be used.)				
o. Are the data or expert opinions presented in a sufficient degree of detail and transparency?	T-3.5.1	There are no expert opinions and data is detailed.	OK	OK
p. Are the data uncertainties clearly stated, if possible with associated margins of error?	T-3.5.1	There are no data uncertainties.	OK	OK
q. Is the scoring reproducible and verifiable?	T-3.5.1	Scoring is reproducible and verifiable	OK	OK
r. Does the project demonstrate clear benefits in terms of sustainable development?	T-2.4.2	Project demonstrates clear benefits in terms of sustainable development (local employment, local income generation, clean energy production)	OK	OK
I. Sustainability Monitoring Plan				
a. Are the mitigation actions included in the monitoring plan?	T-2.4.3	Mitigation actions are to be controlled again when the future targets are set for the indicators.		
b. Are all the non-neutral indicators included in the monitoring plan?	T-2.4.3	All the non-neutral indicators are included in the monitoring plan	OK	OK
c. Is the current status (or expected status under the baseline) of the parameters, the future status and the way they will be monitored described in the monitoring plan?	T-2.4.3	The current status of the parameters are explained.	OK	OK
d. Have the project proponents identified parameters that can be used to properly monitor each non-neutral Sustainable Development Indicator according Annex I of the Toolkit?	T-2.4.3	Parameters are identified.	OK	OK
		Parameter for biodiversity should be related to biodiversity. Please choose a more realistic parameter.	CL-17	OK
		For quality of employment, parameters are different in page 20 and 27 of the GSP. Please clarify.		
		For technology transfer, parameters are different in page 24 and 28 of the GSP. Please clarify.		
e. Are chosen parameters relevant to the indicators?	T-3.5.1	Please refer above.	OK	OK
f. Are these parameters planned to be monitored over the crediting period and on a recurrent basis?	T-2.4.3	Some are monitored continuously and some on a recurrent basis.	OK	OK
		Will quality of employment only be monitored during	CL-18	OK



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CHECKLIST QUESTION	GS Ref.	COMMENTS	Draft Concl	Final Concl
		construction? Please clarify if there will not be any trainings for employees during operation stage.		
g. Are all mitigation measures put in place to prevent violation or the risk of violating a safeguarding principle of the 'Do No Harm' Assessment or to 'neutralize' a Sustainable Development Indicator included in the monitoring plan?	T-2.4.3	Regarding mitigation measure 9 in Do No Harm assessment, please include in your monitoring plan the compliance with environmental regulations.	CL-19	OK
h. Is the sustainability monitoring plan clear about who will monitor with what frequency?	T-3.5.1	Yes, responsibilities are clear.	OK	OK
i. Is the monitoring plan feasible?	T-3.5.1	Monitoring plan is feasible.	OK	OK
ANNEX 1 ODA declaration				
a. Does the project receive ODA under the condition that the credits coming out of the project are transferred to the donor country?	T-3.5.1	Project does not receive ODA.	OK	OK
b. Is a scanned copy of the Official Development Assistance Declaration statement signed by the project owner given in Annex 1?	Annex D	ODA declaration is provided in the PDD and GSP.	OK	OK

Table 3 Legal Requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Legal requirements					
1.1. Is the project activity environmentally licensed by the competent authority?	2	DR	EIA not require document is provided to DOE.	OK	OK
1.2. Are the conditions of the environmental license being met?	2	DR	EIA not require document is provided to DOE.	OK	OK
1.3 Are the conditions of the Designated National Authority being met?	2	DR	EIA not require document is provided to DOE.	OK	OK



VALIDATION REPORT

Table 4 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
<u>CAR-1</u>	Table 1 3.o.iv .		
a-Please include a timeline of milestones of the project and provide objective evidences to validate each date so that start date" investment decision date" can be determined.		Project Timeline table was added to the PDD at page 28 right after Step 3: Barrier Analysis . All related documents were submitted under the folder named " Documents ".	<u>Review 1:</u> Timeline is provided and checked by DOE with documented evidences. Investment decision date is the construction start date.
		<u>Response to Review 1:</u> The approval of the board decision by notary indicating that the board decision is in line with the "book of decisions" of the company.has been provided.	Please provide approval by notary indicating that the board decision is in line with the "book of decisions" of the company. <u>Review 2:</u> Board decision for investment is



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			provided to DOE. Date for Board decision for investment is June 1 st 2009. Board decision formal document is provided to DOE.OK
		The start date of the construction should actually be assumed as the subcontractor agreement date for excavation which is 24 th September 2010. This document was provided at the previous review. Therefore, the date of the start of construction has been changed to 24 th September 2010 in all the related documents.	Please explain why the “start of construction” is dated to 1 October 2010. Review 2: Subcontractor agreement date for excavation is provided to DOE. The date of start of construction is revised as 24th September 2010 in all related documents. OK
		The full financial agreement has been provided.	Please provide full financial agreement Review 2: Full financial agreement which indicates “System connection agreement with TEİAŞ”, “Agreement with Carbon Finance Consultant”, “Subcontractor agreement for construction of transmission line”, “subcontractor agreement for excavation Agreement with turbine supplier”, “Leasing agreement, subcontractor agreement for electromechanical works”, “service agreement for work security services” is provided to DOE.
b-Please provide objective evidence that VER		Please refer to Doc 4 and Doc 19 in “ Documents ”	Contract with consultant is signed



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revenues were considered before the start date.			before the construction start date. VER revenues are considered beforehand.
c-Please provide documents: License and revisions EIA not required document Construction permit Expropriation papers of grazing area and treasury land Transmission line agreement Contract with an A grade Work Security Specialist		Please refer to following documents: License and revisions: Doc 2 EIA not required document: Doc 5 Construction permit: Doc 11 and Doc 12 Expropriation papers of grazing area and treasury land: submitted before Transmission line agreement Contract with an A grade Work Security Specialist: Doc 17 Response to Review 2: Feasibility and Revised Feasibility dates have been added to the Timeline in the PDD.	Documents are provided. Please define the feasibility and revised feasibility dates in project timeline. Review 2: Feasibility and revised feasibility dates have been added to timeline in the PDD.
			<u>The clarification request is closed.</u>
<u>CAR-2</u>	Table 1 3.w.i.		<u>Review 1:</u>
Please include a timeline which shows the milestones of the project so that it can be checked which date is the adequate start date.		Project Timeline table was added to the PDD at page 28 right after Step 3: Barrier Analysis.	Timeline is provided. Investment decision date is the construction start date.
Please describe how the start date is determined.		Doc 8 and Doc 9 prove the start date. Response to review 1: Starting date of the project activity, the date of first real action, should actually be assumed as the subcontractor agreement date for excavation which	In section C.1.1. of the PDD "Starting date of the project activity is the commissioning date of the power plant which is October 1st, 2011". As this is not correct according to GS



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		is 24 th September 2010. This document was provided at the previous review. Therefore, the date of the start of construction has been changed to 24 th September 2010 in all the related documents.	rules, please determine start date to be the first real action. Review 2: Start date of construction is defined as the first real action of the project. It is revised in the PDD and "Subcontractor agreement for the construction of transmission line" is provided to DOE.
Please show objective evidence for prior consideration of VER revenues.		Refer to Doc 4	Contract with consultant is signed before the construction start date. VER revenues are considered beforehand.
			<u>The clarification request is closed.</u>
CAR-3	Table 1 3.ff.		Review 1:
Please provide EIA not required documents to DOE.		Refer to Doc 5	Provided.
On pg 52 of the PIF, it is stated that a permit will be obtained from the government indicating that the project has no negative impact on migrating birds. Please provide the permit.		Refer to Doc 20 and Doc 21	Provided.
Please provide documents demonstrating compliance with the mentioned regulations in section I.5 of the PIF.		There is not a regular official monitoring system for the undertakings mentioned in section I.5 of the PIF. However, the Project Company signed a letter of undertaking to declare that they will comply with the regulations mentioned in the whole document. Please refer to " Do- 6-TOKAT_Killik - RES_Project Description Document December 2009 Annex 12-Letter Of Undertaking "	Provided.
			<u>The clarification request is closed.</u>



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CAR-4 Please provide the mechanical contract so that the information given in description about turbines can be validated.	Table 1 4.a.	Refer to Doc 10 (4 documents)	Review 1: There are 16 X2500 kW turbines to be installed. <u>The clarification request is closed.</u>
CAR-5	Table 1 6.u.i.		
“Most of the private companies in Turkey have little experience and know-how in the management and operation of WPPs” and “financial institutions in the country lack the technical capacity and know-how to assess such projects to ensure the output from them” are given as barriers. Please explain with objective evidences that these barriers existed at time of investment decision and that these barriers prevented the implementation of the project. Costs associated with “difficulties” could be included in IRR analysis. There is also a percentage for unexpected costs in IRR. Besides this, extra unexpected costs could only be considered if they result in a pause in the project (if it can be documented).		Barrier Analysis Section is revised. Only investment barriers are presented in this section and barriers in front of the financing of the project and alleviation of these barriers thanks to the carbon revenues are explained. As also explained in the revised PDD: “The barrier test in Step 3 of the Tool for the demonstration and assessment of additionality states that “If the CDM does not alleviate the identified barriers that prevent the proposed project activity from occurring, then the project activity is not additional.” In addition, it is stated in the Annex 13 of EB 50 Report that a project which will generate carbon credits, may attract financiers who would normally not finance this kind of a project without carbon revenues. All in all, in line with the methodological tool and the guideline, the identified barriers (difficulties in financing of the project) put significant impediments in front of the realization of the project and possible	Review 1: The mentioned barriers are already included in IRR calculations. Please clarify what else can be defined as barriers. Barriers must be evaluated in line with EB50 annex 13. Review 2: All barriers are excluded from the PDD.

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	carbon revenues played an important role in financing of the project and alleviated the identified barriers. Therefore, sub-step 3a is satisfied.” In order to verify the statement above, please see attached “Bank letter (Doc 22)” which explains that the VERs, PEM Enerji A.Ş. planning to benefit through carbon markets, had major positive effect in bank’s evaluation of the financing application of the company for Killik WPP. <u>Respond to Review 1:</u> All barriers have been excluded from the revised PDD.	
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During site visit it was told to the validation team that TEDAS would construct the transmission line. Please clarify.		“Technological barrier” related to transmission lines is excluded from the barriers.	Corrections have been done.
Please clarify how the transmission line prevents the projects from being implemented.		“Technological barrier” related to transmission lines is excluded from the barriers.	Corrections have been done.
Please clarify how the bureaucratic barriers prevent the implementation of the project.		“Other barriers” related to bureaucratic difficulties is excluded from the barriers.	Corrections have been done.
			<u>The clarification request is closed.</u>
<u>CAR-6</u>	Table 1 6.z.		
Please discuss with more details the similar activities. Please define the boundary of common practice analysis. Please provide a reference for similar activities.		Necessary amendment was made in section “Step 4: Common Practice Analysis” Respond to Review 1 Since the issuing date of the first version of the PDD is March 2011, EB63 Annex 12 is not applicable; therefore revision of the common practice analysis has not been considered. <u>Response to Review 2:</u> Feasibility: 08/06/2010. Revised Feasibility: 15/12/2010. Dates have been added to the timeline in the revised PDD.	<u>Review 1:</u> Please revise the section in line with EB63 Annex 12. <u>Review 2:</u> Common practice analysis is line with te methodology. “Tool for the demonstration and assessment additionality, Version 05.2” is used. Please clarify references under common practice analysis. <u>Review 3:</u> Correction have been done.



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Please discuss the similar options regarding size, type, location etc of the project.		The region for Common Practice Analysis is defined as all Turkey and all wind power plants are considered in the analysis Since the issuing date of the first version of the PDD is March 2011, EB63 Annex 12 is not applicable; therefore revision of the common practice analysis has not been considered.	Please revise the section in line with EB63 Annex 12. <u>Review 2:</u> Common practice analysis is line with te methodology. "Tool for the demonstration and assessment additionality, Version 05.2" is used.
			The clarification request is closed.
<u>CAR-7</u> Please provide a table of IRR inputs clearly indicating --input name --input value --name of reference document --page/column number of related value	Table 1 6.c.z z.	The existing table has been modified at page 24 of the PDD <u>Response to Review 1:</u> The table of IRR inputs have been revised and presented in the revised PDD. <u>Response to Review 2:</u> License date has been corrected as "24/07/2008"	<u>Review 1:</u> Please extend the table to all costs, financial parameters etc. <u>The clarification request is still open</u> <u>Review 2:</u> The table which includes all financial parameters are extended in the PDD. Date of the generation licence is given as 03/02/2011. Generation license is dated as July 24th 2008 in the document. Please clarify and check all dates in the table.



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			The corrective action request is still open. Review 3: License date has been corrected in the timeline. The corrective action request is closed.
CAR-8 Please define the boundary of common practice analysis.	Table 1 6.e.d.	The region for Common Practice Analysis is defined as all Turkey and all wind power plants are considered in the analysis Respond to Review 1 Since the issuing date of the first version of the PDD is March 2011, EB63 Annex 12 is not applicable; therefore revision of the common practice analysis has not been considered.	Review 1: Please revise the section in line with EB63 Annex 12. Review 2: Common practice analysis is line with the methodology. "Tool for the demonstration and assessment additionality, Version 05.2" is used. The clarification request is closed.
CAR-9 Please provide EIA report to DOE.	Table 1 10.a.	Since the project has an EIA not required decision/document, an EIA was not prepared.	Review 1: EIA not required decision has been provided to DOE. The clarification request is closed
CAR-10 Please provide objective evidences that safeguarding	Table	There is not a regular official monitoring system for	Review 1:



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principle 9 is accomplished and projects shows compliance with regulations listed in section D.2 of the PDD.	2 F.1.d .	the undertakings mentioned in section D.2. However, the Project Company signed a letter of undertaking to declare that they will comply with the regulations mentioned in the whole document. Please refer to "Do- 6-TOKAT_Killik -RES_Project Description Document December 2009 Annex 12- Letter Of Undertaking"	Objective evidences have been provided. <u>The clarification request is closed</u>
<u>CAR-11</u>	Table 2 F.2.c.		<u>Review 1:</u>
Please also define parameters for livelihood of the poor, human and institutional capacity.		Corrected	Parameters are defined.
Please also define baseline for livelihood of the poor, human and institutional capacity		Baseline for the livelihood of the poor, human and institutional capacity have been defined and included in the revised GS Passport.	<u>Review 2:</u> Baselines are defined in the revised GS Passport.
			<u>The clarification request is closed.</u>
<u>CAR-12</u>			
OM Calculations: - The CO2 emission value for 2009, given on p.39 in Table 17 of the PDD, does not match with the value calculated in the Excel document, spreadsheet 'OM Calculations'. - There is a unit problem: in the spreadsheets 'Fuel consumption (energy)' and 'Fuel Calorific Values' the heating values of fuels consumed are given as TJ whereas the <u>same values</u> are reported as GJ in the spreadsheet 'OM		1. The CO2 emission value for 2009, given in Table 17 of the PDD is correct. Necessary revision in the excel sheet has been applied. 2. Corrected accordingly 3. Units regarding the OM calculations have been provided in the baseline excel sheet.	<u>Review 2:</u> Corrections have been done.



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calculations’. Most units are not given in the Excel (e.g. in the spreadsheet ‘OM calculations’ the units for NCV, fuel consumption, CO2 emissions are not given) but they are actually in accordance with the definitions provided in the PDD in Table B.6.2. Therefore, at the end, the emission factor unit is correct. However, including all parameter units in the Excel will be a useful check to identify possible unit errors as remarked under the previous item.			
BM Calculations: Since no generation efficiencies for LPG and Naphta are provided in the TOOL, it is mentioned that the efficiency values of these fuels are calculated with the available data provided on the TEIAS website. The calculations could not be traced back and need to be explained in detail as the used efficiency factors for LPG and naphta are quite low (27.2% and 32.5% respectively) and inflate the emission factor.		To be on the conservative side, the efficiency factors of LPG and naphta have been changed to 60% (assumed as 60% (equal to the highest efficiency figure / Efficiency figure for Natural Gas-Combined Cycle). Please see the revised PDD.	Review 2: Corrections have been done.
There is no discussion related to the computation of efficiency factors for LPG and naphta. This needs to be added with satisfactory detail (data sources, international		Since the table for default efficiency factors for power plants does not include power plants operating with “naphta”, to be on the conservative side, the highest efficiency figure has been adopted and the following explanation has been	



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benchmarking of results etc.).		added to the revised PDD: “To be on the conservative side, the efficiency factors of LPG and naphta have been changed to 60% (assumed as 60% (equal to the highest efficiency figure / Efficiency figure for Natural Gas-Combined Cycle). Please see the revised PDD. “	
Please clarify why the latest data used in BM calculations is of year 2008.		BM Calculations have been updated taking 2009 figures into consideration. Please see the revised BM Excel Sheet. Therefore, emission reduction calculations needed to be revised. Necessary changes have been applied in the revised PDD.	<u>Review 2:</u> BM calculations are revised according to 2009 references. Changes are applied to the revised PDD. <u>The corrective action request is closed.</u>
<u>CAR-13</u>		The brief description of the project activity has been revised in the PDD as requested.	<u>Review 2:</u> The brief description of the project is revised in the PDD. IRR calculations are based on the feasibility report which is dated in 08/06/2010. New feasibility report dated after investment decision. It is dated in 15/12/2010. IRR inputs for electricity generation is line with the feasibility report which is dated in 08/06/2010.



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Please clearly state in summary section (below) in the PDD that Number of turbines is 16. First provide the current situation and then mention the previous planned number of turbines and annual generation. “PEM Enerji A.Ş. (PEM) proposes to install Killik WPP with 40.5 MW installed capacity capacity in borders of central district of Tokat. Killik WPP will have 54 turbines each having an installed capacity of 0.75 MW. The total electricity production of the project is expected to be some 85.658 MWh/year (Although it was contemplated to erect 54 wind turbines in the project area during the time of investment decision, according to reconfiguration of the project design occurred in October 2010, it was decided to change the design of the project as to have 16 turbines each having an installed capacity of 2.5 MW with an expectation of 95.912 MWh/year electricity production). “			
Please provide references for numbers in “During the time of investment decision, the annual average energy production of the power plant was expected to be some 85.658 GWh/year. However, according to reconfiguration of the project design occurred in October 2010, the annual average energy production of the power plant is expected to be some 95.912 GWh/year.”		Before the investment decision (the first real action date which is the date of the subcontractor agreement for the construction of transmission line) on 24th September 2010, it was planned that 54 wind turbines, each with an installed capacity of 0.75 MW would be erected, generating 96,351 MWh annually. Correspondingly, the feasibility calculations realised on 08/06/2010 were realised taking into account the assumed generation figure. On 15/12/2010, the amendment of the generation licence was realised. As a result, the installed capacity of the project activity was changed from 40.5 MW to 40 MW and instead of 54 wind turbines, 16 turbines would be erected. Consequently, the electricity generation figure	Review 2: Annual energy production is given as 85,657.50 MWh/year in generation license. Brief description is given under section A.2 of the PDD.



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		dropped to 85,657.50 MWh/year. The mentioned information present in the PDD has been revised. The most up-to date annual generation of the project activity is 85,658 MWh which has been indicated in the amended generation license. Section A.2 of the PDD has been revised accordingly.	
Please clarify if the installed capacity is 40 or 40,5 MW.		The installed capacity if the project activity is 40 MW as per the amended generation licence. Necessary changes have been applied to the PDD and the GS passport.	Review 2: Necessary changes are applied to the PDD and the GS Passport. <u>The corrective action request is closed.</u>
CAR-14 55,658 is mentioned in the annual emission reduction calculations. Please clarify.		Annual emission reductions have been recalculated due to changes in BM calculations. Annual emission reductions of the project activity is revised as 52,087 tCO₂e. The amended annual emission reduction figure has been presented in the revised GS PDD and the GS Passport.	Review 2: Annual emission reduction calculation is revised in BM calculations. It is presented in the PDD and GS Passport. <u>The corrective action request is closed.</u>
CAR-15 Please define technical lifetime of the turbines and clarify if there is any equipment renewal costs.		Technical lifetime of the turbines has been determined as 27 years. (25 years; technical lifetime of the turbines + 2 years; construction phase) Fair value has been calculated.	Review 2: Technical life time of the turbines are defined in IRR calculation. <u>The corrective action request is closed.</u>
CAR-16 Please check the depreciation calculations. For		Depreciation calculations have been revised.	Review 2:



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example 397.342 of annual depreciation figure is obtained by considering the investment amount occurred in 2010 only. Please note that depreciation should start after investment is fully completed and booked into balance sheet accounts			Corrections in depreciation calculations are corrected.
The cost of energy transfer line and personnel are exactly same. Please check the figures if there is something wrong here		It has been realised that the indication of "personnel" in cell A 42 in the IRR excel sheet is incorrect. That amount corresponding to cell A 42 is actually be the sum of administration and unforeseen costs. The operating expenses calculation has been revised in the IRR excel sheet.	<u>Review 2:</u> Corrections have been done.
Please check whether there is licence fee or not?		Since a licence fee has not been indicated in the feasibility calculation sheet that the project developer had prepared on 08/06/2010, licence fee has not been added to the IRR calculation.	<u>Review 2:</u> Corrections have been done.
Please check the IRR figures in 10% investment increase and 10% electricity price decrease scenarios.		The sensitivity analysis has been revised. The revisions have been adopted to the revised GS PDD. <u>Response to Review 2:</u> The screenshots of the IRR Calculations have been revised in line with the final version of the calculations.	<u>Review 2:</u> Please change the irr analysis' screenshots in pdd, pages 21,22 and 23. <u>Review 3:</u> Corrections have been done.
			<u>The clarification request is closed.</u>



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CL-1 Some of the pages of the PDD have title CDM PDD and some have CDM-SSC-PDD. Please clarify.	Table 1 3.a.	Corrected	Review 1: Corrections have been done. <u>The clarification request is closed.</u>
CL-2 To monitor installed capacity: data will be obtained from the digital displays on the equipments. Digital displays show the instantaneous power generation of the turbine. Please clarify how this demonstrates the installed capacity.	Table 1 3.t.i.	Corrected Respond to Review 1: The whole monitoring plan has been revised. The parameter "installed capacity" has been included and how this parameter is monitored has been described. Please see the revised PDD.	Review 1: Please explain what kind of correction is made and where in the PDD. <u>The clarification request is still open</u> Review 2: In revised PDD Supplier's related documents are defined for monitoring the parameters. <u>The clarification request is closed.</u>
CL-3 Please indicate name of responsible for baseline and monitoring methodology.	Table 1 3.v.ii	Corrected Respond to Review 1: The correction is made under Section B.8. The name of the responsible is included as well.	Review 1: Please indicate where the correction is made. Please provide the name of the responsible.



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			<u>The clarification request is still open.</u> Review 2: Name of responsible for baseline and monitoring methodology is included under section B.8 of the PDD. <u>The clarification request is closed.</u>
CL-4 Please indicate if the the person/entity is also a project participant listed in Annex 1	Table 1 3.v.iii	GAIA Finansal Danismanlik has developed baseline and monitoring methodology, and since GAIA is not a project participant, it is not listed in Annex 1.	Review 1: Corrections have been done. <u>The clarification request is closed.</u>
CL-5 Please express expected lifetime of the project in MM/YY format.	Table 1 3.x.	Corrected	Review 1: Lifetime of the project is expressed in MM/YY format. <u>The clarification request is closed.</u>
CL-6 Please indicate that each crediting period shall be at most 7 years and may be renewed at most two times if the DOE informs the Executive Board that the original project baseline is still valid.	Table 1 3.z.	Corrected	Review 1: Statement is added. <u>The clarification request is closed.</u>
CL-7 Please identify local stakeholders that have made	Table 1	Please refer to "KILLIK WIND_GSV2 1_LSC_Report_SEPTMBER 2010"	Review 1: Corrections have been done.



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comments	3.hh.i .		<u>The clarification request is closed.</u>
CL-8 Providing information about required permits and regulations, please discuss the projects and alternatives consistency with mandatory laws and regulations.	Table 1 6.d. Table 1 6.h.	The issue was discussed in page 17 of the PDD.	Review 1: Issue is discussed. <u>The clarification request is closed.</u>
CL-9 Outcome of step 3 a is not clearly mentioned. Please clarify.	Table 1 6.v.	Barrier Analysis Section is revised and outcome of Step 3a is clearly mentioned in the revised PDD.	Review 1: Outcome is discussed. <u>The clarification request is closed.</u>
CL-10 Please provide references for the discussion in sub-step 3b.	Table 1 6.w.	Barrier Analysis Section is revised and outcome of Step 3b is clearly mentioned in the revised PDD.	Review 1: Outcome is discussed. <u>The clarification request is closed.</u>
CL-11 While operating the meters for the first time, a protocol will be signed for initial acceptance of the meters. Please provide a copy of this document to DOE when it is available.	Table 1 7.j.	The first reading protocol has been provided.	Review 2: The first reading protocol is provided to DOE. <u>The clarification request is closed.</u>



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CL-12 PDD has not been published on the GS website yet (as by 17/03/2011). Please clarify.	Table 1 9.a.	According to GS rules, PDD has not been published publicly until the start of the SFR process which started at the beginning of April 2011. Please see the link below: https://gs1.apx.com/mymodule/ProjectDoc/EditProjectDoc.asp?id1=947	Review 1: Corrections have been done. <u>The clarification request is closed</u>
CL-13 Descriptions are in line with each other. Please provide mechanical contract and license as objective evidences for the information in project description.	Table 2 B.a.	The related documents has been submitted in the folder named "Documents".	Review 1: Provided. <u>The clarification request is closed</u>
CL-14 Please include estimated start date of construction and commissioning in GSP.	Table 2 B.b.	Corrected	Review 1: Provided. <u>The clarification request is closed</u>
CL-15 Please provide updated information about SFR.	Table 2 E.2.a ·	SFR has just been completed as of early June 2011. The results will be reported to the validation team soon. Respond to Review 1: The SFR was realised between 1 st April- 3 rd June 2011. Due to the stakeholders' indifference to the project activity, no comments were acquired. Therefore, the SFD was extended until the end of 2011 and only three comments could be able to be obtained. SFR Results have been provided.	Review 1: Please provide SFR results. The clarification request is still open. Review 2: SFR results are provided in GS Passport. <u>The clarification request is closed.</u>



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CL-16 Please provide training records and training plan that includes all subcontractors' personnel and own personnel to be employed during operation as per safeguarding principle 8.	Table 2 F.1.c.	The related documents have already been submitted. Respond to Review 1: Training records have been provided. Response to Review 2: The training records were provided in the previous version of the protocol. (Please see "Killik RES_eğitim" folder in the project documents) Nevertheless, the training records have been provided in the attachment.	Review 1: Training records are not provided. Please provide. <u>The clarification request is still open</u> Review 2: Training records still are not provided. Please provide. <u>The clarification request is still open.</u> Review 3: Training records are provided to DOE. <u>The clarification request is closed.</u>
CL-17	Table 2 J.d.		
Parameter for biodiversity should be related to biodiversity. Please choose a more realistic parameter.		Parameter for biodiversity is related and realistic considering the letter granted by MoE "Doc 21-Permission by Ministry of Environment regarding with the Ornithology Report" Respond to Review 1: Before the start of the project activity, an	Review 1: "Parameter" is what we measure to understand the effect of the mitigation action (mitigation action is, limiting number of turbines and determining their locations, in our case).



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		Ornithology Report was prepared. The assessment of the project activity was based on the assumption that 54 turbines each with installed capacity of 0.75 MW would be erected. The three major suggestions, regarding the project activity could be summarized as (1) the reduction in the number of turbines, (2) the design and location of the turbines and (3) the illumination and colouring of turbines .with the consideration of bird collisions. Taking into account the ornithology report prepared, the project developer decided that 16 turbines each with an installed capacity of 2.5 MW would be erected. In addition, the other two suggestions were considered during the implementation of the project activity. As a result, it may be claimed that the project developer has realised an effective discharge of responsibility with respect to the protection of biodiversity. Necessary information has been included to the revised PDD. <u>Response to Review 2:</u> The parameter defined for Biodiversity indicator and the monitoring way has been revised. Please see the revisions in the GS Passport. (The impact on bird migration routes will be monitored, bird collisions will be recorded continuously and reported yearly.)	How will PP understand if the current number of turbines will not harm biodiversity? Will number of dead birds will be measured or what else? <u>Review 2:</u> Way of the monitoring is given as continuously. Please define how the number of dead birds or positive impacts for birds will be followed? Please clarify biodiversity parameter. <u>Review 3:</u> Corrections have been done.
For quality of employment, parameters are different in		corrected	Parameter is corrected as "training



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page 20 and 27 of the GSP. Please clarify.			records”
For technology transfer, parameters are different in page 24 and 28 of the GSP. Please clarify.		Corrected Respond to review 1: Parameter is revised. Please see the revised GS Passport. <u>Response to Review 2:</u> Since wind power technology is already a well-known technology in Turkey, the contribution of the project is assessed negligible and the parameter (Technology transfer and technological self-reliance) is scored as “0” Therefore, this parameter is removed from the Sustainability Monitoring Plan. Please see the revised GS Passport.	Parameter is not adequate. Please correct. <u>Review 2:</u> Parameters are revised in GS Passport. Parameter is given as “Engineers trained for the operation” under section F.2 . Please clarify. <u>Review 3:</u> “Technology transfer and technological self-reliance” parameter has been removed from the Sustainability Monitoring Plan.
			<u>The clarification request is closed.</u>
<u>CL-18</u> Will quality of employment only be monitored during construction? Please clarify if there will not be any trainings for employees during operation stage.	Table 2 J.f.	There will be trainings during the operation phase for both refreshing the knowledge of the existing personnel and the newly hired ones in the future. Respond to Review 1: The GS Passport has been revised accordingly.	<u>Review 1:</u> Please revise the Passport accordingly. <u>The clarification request is still open</u> <u>Review 2:</u> GS Passport revised accordingly.



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			Trainings will be during construction and operation phase. <u>The clarification request is closed.</u>
CL-19 Regarding mitigation measure 9 in Do No Harm assessment, please include in your monitoring plan the compliance with environmental regulations.	Table 2 J.g.	Since the regular and official control mechanisms regarding with the environmental regulations other than possible random inspections, it is not possible to include this issue into the monitoring plan. Speaking of which, the parameters for noise and biodiversity has already been included into the monitoring plan.	<u>Review 1:</u> Corrections have been done. <u>The clarification request is closed</u>
CL-20 To prove additionality and to calculate the grid emission factor, the official methodologies: "Tool for the demonstration and assessment of additionality, Version 05.2" and "Tool to calculate the emission factor for an electricity system, Version 02" are used. Please check for updates of these tools.		The official methodologies "Tool for the demonstration and assessment of additionality, Version 05.2" and "Tool to calculate the emission factor for an electricity system, Version 02" have been found to be compatible with the issue date of the first version of the project which is 10/03/2011. Common practice analysis was requested to be revised but since the submission date of the first version of the PDD is March 2011, EB63 Annex 12 is not applicable. Therefore the revision of the common practice analysis has not been considered.	<u>Review 2:</u> Common practice analysis is line with te methodology. "Tool for the demonstration and assessment additionality, Version 05.2" is used. <u>The clarification request is closed.</u>
CL-21 Please explain the relevance of the information in section B.3. with project boundary. Remove unnecessary information.		Irrelevance of the information mentioned in Section B.3 has been realized. PDD is corrected accordingly.	<u>Review 2:</u> Related informations are mentioned under section B.3 of the PDD. Unnecessary informations are removed from the PDD.



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			<u>The clarification request is closed.</u>
<u>CL-22</u> Please clarify which documents are to be used for cross check or EG facility data.		Requested information has been included in the revised PDD. <u>Response to Review 2:</u> The monitoring frequency has been revised as "Continuous measurement and monthly recording" The explanation regarding the "cross-check procedures" has been removed to QA/QC Procedures row.	<u>Review 2:</u> Cross-check procedures are defined under "Monitoring Frequency". Please clarify. <u>The clarification request is still open.</u>
<u>CL-23</u> Some parameters like annual generation are to be used different in the IRR and PDD. Please summarise these data in sub step 2.c.		Relevant information has been presented under section sub step 2.c As per the applied methodology, while IRR calculations have to be realized taking into consideration the financial inputs determined before the investment decision date, the emission reduction calculation has to be realized using the most up to date relevant values. Therefore the annual generation figure used in the IRR calculations and emission reduction calculations has been presented differently. The mentioned figure used in the IRR is 96,351 MWh while the generation figure used in the baseline emission calculation is 85,658 MWh.	<u>Review 1:</u> Relevant information is added under section sub step 2.c. <u>The clarification request is closed.</u>
<u>CL-24</u> Please clarify Table-24 in the PDD. Capacity of each turbines are defined as 0.75 MW and number of turbines are given as 54.		The number of turbines is 16 and the each turbine has an installed capacity of 2.5 MW. Corrected accordingly. Please see the table in the revised PDD.	<u>Review 1:</u> Corrections have been done in the revised PDD. <u>The corrective action request is closed.</u>



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Please check all references in the PDD.			
FAR01: Before the start of the project activity, an Ornithology Report was prepared. The assessment of the project activity was based on the assumptions that 54 turbines each with installed capacity of 0.75 MWe would be erected. The three major suggestions could be summarizes as; ➤ The reduction in the number of turbines ➤ The design and location of the turbines ➤ The illumination and colouring of turbines During the verification stage "Impact on migration of birds" should be check regarding to three major suggestions by DOE.			