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VALIDATION REPORT

ALIZE CAMSEKI 20.8 MW WIND FARM PROJECT

TURKEY

FINAL
REPORT NO. 2008-9217
REVISION NO. 02.1

CDM Validation Report Template
Version 5.0, November 2006
This is a report template to be used for the validation of CDM projects. Guiding text is presented in italic letters, as here.

This document must be seen in conjunction with the Validation and Verification Guidelines

Date of first issue: 06/05/2008	Project No.: 01 999 2120 9217
DOE: TÜV Rheinland (CDM- E-0013 / JI- E-0012)	Organisational unit: TIE
Client: South Pole Carbon Asset Management Ltd. Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti.	Client ref.: Mr. Bürgi Ms. Capalov

Project Name: Alize Çamseki 20,8 MW Wind Farm Project, Turkey
Country: Turkey
Methodology: ACM0002
Version: 07
GHG reducing Measure/Technology: Wind Power
ER estimate: 51,955 tCO2e per annum

Size
☒ Large Scale
☐ Small Scale

Validation Phases:
☐ Desk Review
☐ Follow up interviews
☒ Resolution of outstanding issues

Validation Status
☐ Corrective Actions Requested
☐ Clarifications Requested
☒ Full Approval and submission for registration
☐ Rejected

In summary, it is TÜV Rheinland's opinion that the Alize Çamseki 20,8 MW Wind Farm Project in Turkey, as described in the PDD of 31 May 2010, meets the relevant UNFCCC requirements for the CDM and the host country criteria as well as requirements for Voluntary Offset Projects under the Gold Standard and correctly applies the baseline and monitoring methodology ACM0002 version 07. After all corrective action and clarification requests from validation and 6-week registration review could be resolved TÜV Rheinland's assigned validation team recommends the registration of the project activity at Gold Standard Foundation.

Report No.:	Date of this revision:	Rev. No.
2008-9217	29/06/2010	02.2

Report title: Alize Çamseki 20,8 MW Wind Farm Project, Turkey

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Abbreviations

Explain any abbreviations that have been used in the report here.

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CL	Clarification request
CO2	Carbon dioxide
CO2e	Carbon dioxide equivalent
DNA	Designated National Authority
FCAR	Forward Corrective Action Request
GHG	Greenhouse gas(es)
GJ	Giga joule
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal rate of return
LOA	Letter of Approval
MP	Monitoring Plan
MVP	Monitoring and Verification Plan
NGO	Non-governmental Organisation
NPV	Net Present Value
ODA	Official Development Assistance
O&M	Operation and maintenance
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change
GS	Gold Standard
TAC	Technical Advisory Committee

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1 EXECUTIVE SUMMARY – VALIDATION OPINION

The DOE E-0013„TÜV Rheinland Japan Ltd. (TÜV Rheinland)" has performed a validation of the "Alize Çamseki 20.8 MW Wind Farm Project" in Turkey. The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism and host country criteria, as well as the Gold Standard Validation & Verification Manual for Voluntary Offset Projects and criteria given to provide for consistent project operations, monitoring and reporting. The review of the project design documentation and the subsequent follow-up interviews have provided TÜV Rheinland (the verifier) with sufficient evidence to determine the fulfilment of stated criteria. After resolving of a few corrective action and clarification requests TÜV Rheinland has considered to submit the request for registration for the project activity to Gold Standard Foundation.

The host country is the Republic of Turkey, which has ratified the Kyoto Protocol on 28 May 2009 and is considered an Annex I Party to the United Nations Framework Convention on Climate Change. As the project acitivity is designed as a voluntary emission reduction project, there will no other Annex I Party be involved, even the private company acting as buyer of the VERs might come from another Annex I country. There is so far no specific department of the Designated Focal Point assigned for JI in the Republic of Turkey, which would have the responsibility to issue a Letter of Approval and to confirm that the project fulfils the eligibility criteria of the host country for JI, Track 1 or JI, Track 2 project activities and assists in achieving sustainable development. The National Focal Point of Turkey is the Ministry of Environment and Forestry (http://maindb.unfccc.int/public/nfp.pl).

The National Focal Point has been informed as a stakeholder about the project in agreement with GS requirements. The validation did not reveal any information that indicates that the project can be seen as a diversion of official development assistance (ODA) funding towards Turkey. The project correctly applies ACM0002 version 07: "Consolidated baseline & monitoring methodology for grid-connected electricity generation from renewable sources".
By generating renewable energy the project will displace fossil fuel based grid electricity. The project results in reductions of CO2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project 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.

The total emission reductions from the project are estimated to be on the average 51,955 tCO2e per year over the first 7-years renewable crediting period.

The emission reduction forecast has been checked, and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change. Adequate training and monitoring procedures have been implemented.

In summary, it is the opinion of the assigned validation team of TÜV Rheinland that the "Alize Çamseki 20.8 MW Wind Farm Project" in Turkey as described in the PDD version 3.1 of 31 May 2010 meets all relevant requirements for Voluntary Offset Projects under the Gold Standard and all relevant host country criteria and correctly applies the baseline and monitoring methodology ACM0002 version 07. After all corrective action and clarification requests could be resolved the verifier TÜV Rheinland recommends to submit the request for registration for the project "Alize Çamseki 20.8 MW Wind Farm Project" as a Gold Standard VER project activity directly to Gold Standard Foundation (GS-TAC).

2 INTRODUCTION

South Pole Carbon Asset Management Ltd. South Pole Carbon Asset Management Ltd. and Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti. have commissioned TÜV Rheinland to perform a validation of the "Alize Çamseki 20.8 MW Wind Farm Project" in Turkey (hereafter called "the project"). This report summarises the findings of the validation of the project, performed on the basis of UNFCCC criteria for the CDM, 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 modalities and procedures and the subsequent decisions by the CDM Executive Board and the requirements for Voluntary Offset Projects under the Gold Standard.

2.1 Objective

The purpose of a validation is to have an independent third party to assess the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects as well as Voluntary Offset projects under the Gold Standard and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified emission reductions (VERs).

2.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, the requirements for Voluntary Offset Projects under the Gold Standard and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology. The validation team has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of VERs.

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

3 METHODOLOGY

The validation consists of the following three phases:

I a desk review of the project design documents

II follow-up interviews with project stakeholders

III the resolution of outstanding issues and the issuance of the final validation report and opinion.

The following sections outline each step in more detail.

3.1 Desk Review of the Project Design Documentation

The following table outlines the documentation reviewed during the validation:

/1/ South Pole Carbon Asset Management Ltd. and Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti., PDD "Alize Çamseki 20.8 MW Wind Farm Project, Turkey", Version 01, 27 March 2008

/2/ South Pole Carbon Asset Management Ltd. and Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti., PDD "Alize Çamseki 20.8 MW Wind Farm Project, Turkey", Version 02, 03 July 2008

/3/ Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti. and South Pole Carbon Asset Management Ltd., Report of the Initial Stakeholder Consultation, Version 01, 25th of February 2008

/4/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): *Validation and Verification Manual*. http://www.vvmanual.info

/5/ ACM0002 "Consolidated methodology for grid-connected electricity generation from renewable sources" version 07 of 14 December 2007.

/6/ Methodological tool "Tool to calculate the emission factor for an electrical system" (EB 35, version 01.1 of 29 July 2008)

/7/ "Guidance on the Demonstration and Assessment of Prior Consideration of the CDM" (EB 41, version 01 of 2 August 2008)

/8/ TÜV Rheinland, First List of CARs and CLs of 06/05/2008

/9/ Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti. and South Pole Carbon Asset Management Ltd., Feedback CARs and CLs, dated 03/07/2008

/10/ Excel Sheet Baseline Calculation of 16/06/2008

/ 11/ Wind Farm License Overview of 24/06/2008

/12/ Alize Çamseki Project Time Table of 24/06/2008

/13/ Technical Specification of Windturbine ENERCON E-82 and E-48 with regard to Sound Levels

/14/ Wind Energy Yield Calculation of 26/12/2007

/15/ Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti. and South Pole Carbon Asset Management Ltd., Report of the Main Stakeholder Consultation, Version 01, 18th of June 2008

/16/ Audit Plan Soma and Alize Çamseki Wind Farm Project of 28/03/2008

/17/ Board Resolution of ALİZE ENERJİ ELEKTRİK ÜRETİM ANONİM ŞİRKETİ on Consideration of VERs for the Alize Çamseki Project of 06/07/2007

/18/ Financial Consultant Statement about ODA of 03/06/2008

/19/ Generation License No. EÜ/1167-1/834 of 18/04/2007

/20/ Gold Standard Information (Annex 7 of PDD)

/21/ ENERCON GmbH Aurich, Technical Specifications Wind Turbines

/22/ Clean Development Mechanism Validation and Verification Manual, draft, EB 41 meeting

/22/ Maintenance Manuals of ENERCON

/23/ Layout and Design Documents

/24/ GUIDANCE ON THE DEMONSTRATION AND ASSESSMENT OF PRIOR CONSIDERATION OF THE CDM. EB 41 meeting

/25/ Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electrical Energy (Law No. 5346) of 10 May 2005 and actual updates of 2007

/26/ GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT (CDM-PDD) AND THE PROPOSED NEW BASELINE AND MONITORING METHODOLOGIES (CDM-NM), Version 07, EB 41 meeting

/27/ Stakeholder consultation questionnaires

/28/ CDM Executive Board: Tool for the demonstration and assessment of additionality, version 05, EB 39 meeting.

/29/ Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories

/30/ Communique regarding the Meters to be used in the Electricity Market (TEIAS)

/31/ Electricity Market Balancing and Settlement Regulation (TEIAS)

/32/ TurkStat, Turkey's Statistical Yearbook, 2007

/33/ Turkish Electricity Generation – Transmission Statistics (TEIAS)

/34/ Wind Energy Guide for County Commissioners (US DOE)

/35/ Energy Policy of IEA Countries: Turkey 2005 Review (OECD/IEA 2005)

/36/ Global Wind 2007 Report (GWEC)

/37/ The Gold Standard Voluntary Emission Reductions (VERs) Manual for Project Developers, version 1

/38/ The Gold Standard Validation and Verification Manual for Voluntary Offset Projects, version 1

/39/ Gold Standard Rules and Procedures Updates and Clarifications

/40/ Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti., PDD "Alize Çamseki 20.8 MW Wind Farm Project, Turkey", Version 3.0, 16 March 2010

/41/ Letter Garanti Bank Istanbul, Turkey of 17/02/2010

/42/ Eco Lab Noise Measurement Legal Compliance Report No. AB-0079-T/E-09-06-018/06-09 of 09 – 10/06/2009 in Turkish language

/43/ Sound level sheet for ENERCON WTG E-48, dated 24/06/2006

/44/ Sound level sheet for ENERCON WTG E-82, dated 02/08/2006

/45/ Excel worksheets baseline for Alize Camseki Wind Farm of 15/03/2010

/46/ GS Synthesis Report of 6-week registration review, dated 25 January 2010

/47/ Feedback of project proponent to GS Synthesis Report, dated 16 March 2010

/48/ Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti., PDD "Alize Çamseki 20.8 MW Wind Farm Project, Turkey", Version 3.1, 31 May 2010

/49/ Oil consumption Enercon Turbines of Soma-Polat Wind Farm Project and Alize Çamseki 20.8 MW Wind Farm Project (Source: ENERCON Servis Ltd.)

/50/ Chapter 7.4 Consumptions and Materials, Table 7-1 Expected consumptions and materials, Source; Anholt Offshore Wind Farm,Project Description, dated January 2010 By Ramboll Wind, Teknikerbyen 31, 2830 Virum, Denmark

/51/ "Avoiding hydraulic brake lines" Source: WINDBLATT, ENERCON Magazine for wind energy (Issue 03 I 2006)

/52/ "Wind Turbines Shed Their Gears Both Siemens and GE bet on direct-drive generators" By Peter Fairley, April 27, 2010, http://www.technologyreview.com/energy/25188/page2/

/53/ „Erneuerbare Energien, Gesamtüberblick über den technologischen Entwicklungsstand und das technische Gefährdungspotenzial", Abschlussbericht der Projektgruppe „Erneuerbare Energien" der Technischen Versicherer im GDV, Stand März 2003

/54/ Wind, Bimonthly Magazine - May/June 2004

/55/ "When the Wind Blows Pitch Control Systems Turn", By Dr Sherif El-Henaoui, Moog Inc.

/56/ DBU – Deutsche Bundesstiftung Umwelt „Bernhard Aloys Wobben, Fa. ENERCON, Aurich, Bahnbrechende Entwicklungen im Windkraftanlagenbau" , (Preisträger des deutschen Umweltpreises im Jahre 2000)

/57/ Georg Groß, Martin Weinschenk „TG 13 / 2001, BSZ Leonberg"

/58/ Source: Brochure „ENERCON WIND TURBINES TECHNOLOGY & SERVICE" (ENERCON GmbH, Dreekamp 5,· 26605 Aurich · Germany)

3.2 Follow-up Interviews with Project Stakeholders

Identify any personnel who have been interviewed and/or provided additional information to the presented documentation.

	Date	Name	Organization	Topic
/1/	2008-04-02	Prof. Dr. Osman DEMIRCAN	Canakkale University	Environmental impacts
/2/	2008-04-02	Dr. Francois Beaurain	Implementation Manager, South Pole Carbon Asset Management Ltd.	Project technology, Status of project preparation
/3/	2008-04-02	Mr. Nail DINÇKAL	Üvecik Village Headman	Follow up stakeholder consultation process

/4/	2008-04-02 2008-04-04	Mrs. Cagla Balci ERIS	Commercial Coordinator Asst. DEMIRER HOLDING	Local stakeholder process, on-site assessments, background information, personnel
/5/	2008-04-02, 2008-04-04 02-05/2010	Mr. Yagmur Karabulut	Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti.	Baseline determination, emission reductions Calculation, emission reduction monitoring plan, monitoring plan of sustainable indicators, additionality Feedback to GS Synthesis Report
/6/	04 – 08 / 2008	Mr. Patrick BÜRGI	Managing Partner, South Pole Carbon Asset Management Ltd.	Project design, additionality, CARs and CLs
/7/	2008-04-04	Ms. Lale ÇAPALOV	Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti.	Global stakeholder process, local stakeholder process

3.3 Resolution of Outstanding Issues

The objective of this phase of the validation is to resolve any outstanding issues which need be clarified prior to TÜV Rheinland's positive conclusion on the project design. In order to ensure transparency a validation protocol is customised for the project. The protocol shows in transparent manner criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, 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 validation protocol consists of two tables. The different columns in these tables are described in the figure below. The completed validation protocol for the "Alize Çamseki 20.8 MW Wind Farm Project" in Turkey is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of CDM or GS-VER criteria or where a risk to the fulfilment of project objectives is identified. Corrective action requests (CAR) are issued, where:

i) mistakes have been made with a direct influence on project results;
ii) CDM / GS-VER and/or methodology specific requirements have not been met; or

iii) there is a risk that the project would not be accepted as a GS-VER project or that emission reductions will not be certified.

A request for clarification (CL) may be used where additional information is needed to fully clarify an issue.

Validation Protocol Table 1: Mandatory Requirements for CDM and GS-VER Project Activities		
Requirement	***Reference***	***Conclusion***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements or a request for **Clarification (CL)** where further clarifications are needed.*

Validation Protocol Table 2: Requirement checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 2 are linked to checklist questions the project should meet. The checklist is organised in different sections, following the logic of the large-scale PDD template, version 03 - in effect as of: 28 July 2006. Each section is then further sub-divided.	*Gives reference to documents where the answer to the checklist question or item is found.*	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.*	*This is either acceptable based on evidence provided (**OK**), or a **corrective action request (CAR)** due to non-compliance with the checklist question (See below). A request for clarification (CL) is used when the validation team has identified a need for further clarification.*

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	***Ref. to checklist question in table 2***	***Summary of project owner response***	***Validation conclusion***
If the conclusions from the draft Validation are either a CAR or a CL, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the CAR or CL is explained.*	*The responses given by the project participants during the communications with the validation team should be summarised in this section.*	*This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".*

Figure 1 Validation protocol tables

3.4 Internal Quality Control

The final validation report including the initial validation findings is based on the results of the desk-review, study of background information and the results of the on-site assessment. Comments from the global stakeholder consultation process were invited. Two comments from the stakeholder consultation process in form of supporting letters have been received from the GS supporting NGO Greenpeace Turkey, dated 07/01/2008 and from the local NGO Gümçed, dated 10/01/2008. The final validation report underwent a technical review before submission to the project participants and subsequent requesting registration of the project activity with Gold Standard Foundation.

The technical review has been performed by a technical reviewer qualified in accordance with TÜV Rheinland's qualification scheme for CDM and GS-VER validation and verification.

3.5 Validation Team

Role/Qualification	Last Name	First Name	Country
CDM validator, renewable energy and energy efficiency expert	Seidel	Kurt	Germany

The CV of each individual validation team member is available upon request.

4 VALIDATION FINDINGS

The main findings of the validation are stated in the following sections. The validation criteria (requirements), the means of verification and the complete list of results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

4.1 Participation Requirements

Referring to Part A, Annex 1 and 2 of the PDD.

The project participants in the host country are the Turkish private companies Alize Enerji Elektrik Üretim A.Ş. and Mavi Sürdürülebilir Kalkinma Proje ve Danismanlik Hiz. Ltd. Sti. (local carbon consultant). No project participant from Annex I is announced yet. The host Party Turkey does not meet the requirements to participate in the CDM. Therefore no Designated National Authority exist, which can officially authorize the project participant. The National Focal Point of Turkey is the Ministry of Environment and Forestry (http://maindb.unfccc.int/public/nfp.pl). A request for an official Letter of Endorsement for the Alize Çamseki project can only be issued after the adequate infrastructure of a DNA is established. It is deemed reasonable to close therefore FCAR1 and go ahead with the voluntary offset project "Alize Çamseki" as GS-VER project. In case the general framework will change a conversion into a CDM or JI project is intended by the project participants. Therefore it is obvious that a participating Annex I party could not yet be identified at this stage of validation. The DNA of the prospective Annex I country involved could therefore not yet officially authorize a project participant.

The validation did not reveal any information that indicates that the project can be seen as a diversion of official development assistance (ODA) funding towards Turkey.

FCAR1: A copy of the letter of endorsement of the national focal point of Turkey, which confirms that the project is voluntary and contributes to the sustainable development has to be submitted to the validation team.

Conclusion: The explanation given is deemed reasonable to close therefore FCAR1 and go ahead also with the voluntary offset project "Alize Çamseki" as GS-VER project for the time being. A possible conversion into a CDM project or JI project depending of the status of the host country at a later time of the project cycle might nevertheless need an adequate approval.

Relevant Corrective Action Requests (CARs) and Clarification Requests (CLs) could be successfully resolved and are summarized belowand under section 4.10.,e) for transparency reasons:

CL 8: It shall be clarified whether Enercon GmbH, Germany is a project participant ?

As stated in the draft PDD, Enercon GmbH is not a project participant. This could be clarified and is subsequently closed.

4.2 Project Design

Referring to Part A and C of the PDD.

The project involves the development of a 20.8 MW onshore wind farm in Canakkale Province in Turkey. The project will be constructed and operated by Demirer Enerji, under the legal entity "Alize Enerji Elektrik Üretim A.Ş." and consists of 10 wind turbines of 2000 kW (E 82, wind class IEC/NVN II) and 1 wind turbine of 800 KW (E 48, wind class IEC/NVN II), which is advanced technology from Enercon that is transferred from an Annex I Party. The technical specifications could be verified during the on-site assessment. The gearless, variable speed, variable pitch control wind turbine E 82 with 2,000 kW rated power and a rotor diameter of 82 metres represents in this large scale "First-Of-Its-Kind" in Turkey and is deemed to reflect current good practice.

The proposed project activity includes the construction of 21 km of new transmission line to establish a connection between the proposed project and the national grid. The project will be connected to the 154 kV high-voltage transmission line at Ezine transformer station.

The Alize Wind Farm will generate approx. 81.8 GWh/year which is delivered to the Turkish national grid. The estimated emission reductions amount to approx. 51,955 tCO2-eq/year. Being a renewable electricity project, the project activity will generate greenhouse gas (GHG) emission reductions by avoiding CO2 emissions from electricity generation by fossil fuel power plants.

Because of the significant contributions of the project activity to technology transfer from Germany to Turkey and to the region's sustainable development is the project activity designed as Voluntary Offset Project under the Gold Standard. The project's system boundaries are clearly defined as the Turkish national power grid. The project activity is expected to start operation on 01/01/2009.

The project owner has seriously considered VERs in the decision to develop the project, which has been confirmed with relevant documents in the course of the validation process. An additional endorsement of the project activity as Voluntary Offset Project by the National Focal Point of Turkey (REC) has been asked for. The expected operational lifetime of the project activity is 30 years. A renewable crediting period of 7 years has been chosen for the project, starting from 24 June 2009. The emission reductions are estimated to be 51,955 tCO2e per year and 363,685 tCO2e over the first seven-year crediting period.

Relevant Corrective Action Requests (CARs) and Clarification Requests (CLs) could be successfully resolved and are summarized below for transparency reasons:

FCAR2: The project sites need to be clearly demarked. The unique identification of each turbine needs to be provided to the verifier, based on micro-siting. Please provide also the installed turbine details for verification.

Micrositing for both projects was not finalized yet at time of PDD design. Meanwhile the revised PDD contains also coordinates of the single turbines. The final locations of the turbines will be confirmed in the course of the first verification of the project activity.

4.3 Baseline Determination

Referring to Part B and Annex 3 of the PDD.

The project applies the approved baseline methodology ACM0002 (version 07), titled "Consolidated methodology for grid-connected electricity generation from renewable sources" and the relevant methodology tool "Tool to calculate the emission factor for an electricity system".

The applied baseline methodology is justified as it has been demonstrated that the project activity ensures that:

- It is a grid connected zero emission renewable power generation activity from wind energy.
- The project does not involve switching from fossil fuel to renewable energy at the project site.

The spatial extent of the project boundary is clearly defined as the site of the project activity and all power plants connected physically to the Turkish national grid.

The defined project boundary is in line with ACM0002 (version 07). Emission sources and gases included in the project boundary are:

	GHGs involved	*Description*
Baseline emissions	*CO2*	*Turkish National Grid*
Project emissions	*N/A*	Project emission is regarded as zero as the project is a renewable energy (wind source) project.
Leakage	*N/A*	There are no leakages that need to be considered in applying this methodology.

In the baseline scenario the electricity delivered from the project activity to the grid would have been generated by fossil fuels grid-connected power plants and by the addition of new generation sources. This is reflected in the combined margin (CM) - the weighted average of the operating margin (OM) emission factor and the build margin (BM) emission factor. The weighting is set to respectively 75% and 25%, the default values stipulated by ACM0002 version 07 for wind farm projects.

The Turkish National Grid is dominated by fossil fuel-fired power plants (coal, lignite, natural gas and fuel oil). It is deemed likely that these fossil fuel-fired power plants will continue to dominate the power sector due to the local availability of low-cost coal and lignite. It is expected that renewable capacity additions will not have significant effects on the mix of the Turkish National Grid during the first crediting period. The baseline determination is transparent and reasonable.

4.4 Additionality

Referring to Part B of the PDD.

The additionality of the project has been established using the "Tool for the demonstration and assessment of additionality" version 05 approved by the CDM-EB.

Step 1: Identification of the alternatives to the project activity consistent with the current laws and regulations.

The alternate baseline scenarios for the project activity have been suitably identified as,

a) The proposed project activity not undertaken as a VER project activity;
b) Same amount of electricity produced by other facilities not under the control of project proponent (no action from the investors), where the energy mix is dominated by fossil fuel fired power plants.

The proposed project activity not undertaken as a VER project activity is not a realistic and credible alternative, as discussed in the analysis below.

Power plants of the similar installed capacity as the proposed project utilizing renewable energy such as biomass are not economically attractive due to undeveloped technology status and the high cost of power generation. Furthermore, the hydro resources are limited and lacked in this region and are not able to provide a comparable output or the same services as the proposed project.

The installed capacity of the Turkish National Grid for both the existing power plants and the power plants to be built in a foreseeable future makes it possible as an alternative to provide electricity from the grid. The only realistic and credible alternative for the proposed project is thus the provision of an equivalent amount of annual power output by the Turkish National Grid.

Step 2: Investment analysis

The project proponent has decided to proceed to *Step 3 (Barrier analysis)* without applying *Step 2 (Investment analysis).*

Step 3: Barrier analysis.

A barrier analysis has been conducted, describing different barriers in a comprehensive way according to non-binding best practice that would prevent the implementation of the project, but would not prevent the implementation of at least one of the alternatives:

Investment barriers

It could be verified and hence confirmed by the validator, that no similar wind energy projects has been taken into operation without VER credits in Turkey.

An investor in Turkey will find it impossible to borrow long-term in the Turkish market. Firstly, there is no domestic supply of long term commercial credit. Secondly, it would be prohibitively expensive. The current real interest rate on short term debt is more than 12%, 20 - 25% for short term borrowing, inflation close to 10%. These points to a discount rate for long term credit in excess of 12% in real terms in YTL. Also supply of long term international commercial credit to Turkish debtors is limited.

The investment cost has been higher than originally planned because of an increase of the cost of the equipment, additional cost for the grid connection. The high initial investment cost leads to higher investment risk and more difficulties in project financing. The prospect of generating tradeable Verified Emission Reductions (VERs) and the expected revenues from carbon credits was basis for the positive loan decision of the bank.

The arguments provided, which are explaining the difficulties to getting access to finance have been checked by the validator and are accepted as substantial. It can be confirmed that the annual debt service cover ratio was the main concern of the bank which is providing the loan and has led to the MOU of the bank for financing with VER revenues.

It is also correct, that the project faces project-specific financial barriers like high transmission line system usage fee, the additional investment costs of the transmission line to be financed by the project proponent and the selected advanced technology of the German manufacturer Enercon GmbH, which is more costly than comparable technologies with gearbox.

Technological barriers

The imported 2000 kW wind turbines of type Enercon E 82 with a rotor diameter of 82 meters are the “First-of-its-Kind” in Turkey and lack operation experience in Turkey. The project owner lacks skilled labour to operate and maintain the technology, which will lead to a high risk of equipment disrepair and malfunctioning and other under- performance. Thus training on required technology for the staffs is carried out during implementation of the proposed project.

One of the advantages of the direct drive gearless design with synchronous annular generator of Enercon, which so far is more or less exclusively the domain of Enercon is especially for connection to existing grids, that in general, no flicker problems occur. The direct drive variable speed turbines of Enercon also allow the grid voltage to be controlled, as the reactive power generation of the generator can be varied in order to ensure that the required power factor for the Turkish grid can be secured.

The other claims for technology barriers with regard to technology transfer, the transmission system, lack of infrastructure and skilled labour are justified.

Prevailing practice

It is also justified, that the transport and construction of the wind park with local sub-contractors with no experiences and references in this sector, provides one hand temporary additional jobs in the region (between 40 to 140 jobs per 100 MW of installed capacity /34/),

but bears on the other hand additional risks and might increase subsequently the investment costs.

Other barriers

Other barriers consist of legal and bureaucratic barriers with regard to the generation license and other related necessary permits, government policies in favour of nuclear and fossil fuel-fired power plant investments, project specific licensing barriers with regard to the requested implementation time frame and logistic barriers with need of additional roads for transportation of the equipment with heavy trucks, which are seriously affecting the implementation of alternative a).

Turkish government has not set renewable energy target yet but in 2005 first renewable energy law was accepted. Licence applications for a total capacity of 4,800 MW (November 2004) have been submitted to EMRA by private developers after the beginning of the electricity market reform. The law was updated in 2006 and purchase guarantee for clean electricity is extended to 10 years. The kWh price for renewable energy is between 5 and 5.5 Euro cent. Despite a good progress after amendments of the law, EMRA has stopped receiving new license application till further notice. There were many small companies bought licenses of the best wind areas and made no progress in project implementation and obviously are looking for real investors to sell it with a better price. As a result, many licensed projects saw no progress. Some issues related with investing in the market are: Country risk, weak financial system, credit risk and grid capacity limitations.

EMRA is now looking for ways to solve this problem and probably they may ask for assurances from companies. In total, licensed wind farm projects make 2,918 MW of installed capacity however by June 2008, installed capacity for wind energy reached only 249 MW.

In summary it can be concluded that the claims presented by the project participant could be verified by evidences in the course of the validation and are found to be substantial for the justification of the additionality of the project activity.

Hence, none of the barriers mentioned above would prevent the alternative equivalent capacity or electricity service provided by the Turkish National Power Grid from implementation (alternative b).

Another very important argument which further substantiates the additionality of the project is the proven early VER consideration, based on the project starting date and the main project milestones, which is explained below:

The start date shall be considered to be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity, whereas minor pre-project expenses should not be considered in the determination of the start date.

The project starting date (16th of June 2008 is after the signature of the carbon consultancy agreement (15/11/2007) and the local Stakeholder Meeting in Üvecik village (29/11/2007).

Hence, this confirms the serious VER consideration prior to proceeding with the project.

The timeline of the events can be summarized as follows:

18/04/2007	Electricity production license received (licensing took more than 3 years)
06/07/2007	Board decision for considering VER revenues
2007	New feasibility with VER revenues
15/11/2007	Carbon consultancy agreement signature
29/11/2007	GS Initial Stakeholder Consultation meeting is organized
01/01/2008	Gold Standard is informed about the Project
January 2008	Starting of the loan discussions: MoU of the Bank for financing with VER revenues
March 2008	DOE contracted
31/03/2008	GS Main Stakeholder Consultation initiated
01-04/03/2008	On-site assessment by validation team of DOE
June 2008	Term sheet of the bank received
16/06/2008	Turbine order signature date [financial closure]
06/08/2008	Loan agreement signature date
08/2008	Mobilisation starts
24/06/2009	Operation start date

The project proponents have indicated, by means of reliable evidence, that continuing and real actions were taken to secure VER status for the project in parallel with its implementation. Evidence to support this has been given by contract with consultant for GS-VER/PDD/methodology services.

The early consideration of the VER component has additionally been confirmed during the interviews with the project proponents during the on site-assessment from 1st to 4th of April 2008 The presented evidence for early consideration of VER is traceable and thus has been assessed by the audit team as sufficient.

Step 4: Common practice analysis.

Existing wind farms in Turkey are listed in the common practice analysis. It shows that earlier wind farms enjoyed a very favourable electricity tariff (8.54 $cents/kWh until 2001) that is impossible for nowadays wind farm projects. Other similar wind farms have all applied for VER projects due to the same financial unattractiveness and investment barrier as the proposed project activity. The penetration rate of the installed wind energy electrical capacity in relation to the total installed capacity in Turkey is 0.60 %. According to Turkey Wind Atlas, Turkey's technical wind energy technical potential is 88 000 MW and its economic potential is 10 000 MW. The penetration rate of the installed wind energy electrical capacity compared to these figures currently only 0.28 % or 2.49 % respectively. Therefore wind energy utilization can currently in Turkey not considered as business as usual and the project activity cannot be said to represent common practice.

In summary, it is sufficiently demonstrated that the project is not a likely a baseline scenario and that emission reductions occurring from this will hence be additional.

Relevant Corrective Action Requests (CARs) and Clarification Requests (CLs) could be successfully resolved and are summarized below for transparency reasons:

CAR 1: Barriers described

Provide re-traceable explanations to clearly show how the VER-project acitivity under consideration is affected by the prescribed barrier´s and provide evidence to support the relevance of the barriers, applying non-binding best practice examples and use also investment barrier analysis.

Provide transparent and documented evidence making specific link to the actual project acitivity to carry out the barrier analysis and use evidence such as national/international statistics, national/provincial policy and legislation, studies/surveys by independent agencies, industrial associations of renewable energy industry, etc.

More wind project specific barriers should be described.

Project participants have activities only in Turkey and are Turkey-based investors. This means that their business approach is Turkey-dependant, as are their investment expectations and financial capabilities. Therefore, for both projects projects participants are affected by the barriers mentioned in the PDD.
Wind energy is one of the most sustainable ways of generating energy and both project activities will utilize new technology wind turbines as used in the developed countries. Therefore, the technology and equipment used are best practice.
Project development for wind farms in Turkey is a challenge in a certain way. For the two projects under planning, the whole time schedule from the beginning until today has required significant amounts of financial resources, time, bureaucratic and organizational efforts, which are barriers by themselves. The permit procedure of wind projects is not always well understood by governmental bodies, and for the projects at hand , various difficulties had to be overcome, which had not been foreseen before.

After getting electricity production license for the "Alize Çamseki 20.8 MW Wind Farm Project", the project developer will start the application processes mainly for 3 main permits:

- Land use permit for the power plant location:

The location for the Üvecik project is in the ownership of the Ministry of Forestry. The application process started on 2nd July 2007. However, on 25th October 2007, all the Forestry applications in Turkey have been stopped due to some legal problems until 24th March 2007. The time lost for the permitting period due to general implementation problems in Turkey is causing difficulties to be on time. The construction permit can be obtained only if the land use permit has been obtained. Final approval is still being awaited.

- Transmission line usage permit including land use rights for transmission lines.

Application for transmission line usage permit has been approved in June 2008.

- Construction permit

Application has started in June 2007 and has been approved in May 2008 by the Governorship of Canakkale. In this period, Governorship of Canakkale has run the process with many different local institutions by asking each one for their positive decision for the final approval. The institutions are among others:

- Directorate of Environment
- Directorate of Water works
- Directorate of Health
- Directorate of Industry
- Directorate of Meteorology
- Directorate of Forestry
- Association for Cultural and Natural Assets

The land use permit is being awaited to start the construction.

There is no described legal procedure for après-license permitting process. Depending on the location and ownership of the project area, the application process is different for every project according to the local conditions and legal framework. There is no one single authority. Thus, the way to the construction is long, complicated, risky and unknown to the project developer. The developer has to deal with many authorities and the approvals from many authorities are interconnected with each other. However, the time for the permitting period before the construction is limited (for Üvecik 16 months). When also considering the associated project development costs, this is the reason, why only 13 projects are in operation and 4 under construction. As of 24.06.2008, there are 82 wind farm licenses available. 52 wind farm license applications are under review. 16 wind farm licenses have been cancelled so far, several others have been terminated.

Demirer Enerji develops and builds all the projects as well as Üvecik by taking considerably high business risk. Otherwise, it is actually impossible to realize the projects under the given time, current legal and bureaucratic structure. Demirer Enerji develops and builds only wind projects since 1996 and is the pioneer in Turkey for wind farms.

CAR 2: Common practise analysis: The similar activities implemented without VER benefits shall be analysed in detail with evidence.

The first wind farms in operation have been realized under "BOT[1]" or "autoproducer" models. Autoproducers are generally companies having some production facilities (factories) with their own electricity consumption. These companies invest in electricity generation technologies to cover their own demand and they generate electricity primarily for their own electricity consumption. Autoproducers are allowed to feed a limited portion of their generation to the grid and act with the aim of securing their own electricity cost effectively. Therefore they cannot be considered as similar players as other electricity generation companies do.

BOT projects are established for the sole purpose of generating and supplying electricity to the grid. Based on the Law Nr.3096 (4.12.1984), BOT projects were allowed to have negotiated special contracts with the government and they will be handed over to the government after a certain period of time. Since BOT projects are realized based upon governmental purchase guarantee containing project-specific conditions by securing long-term electricity sales agreements with undisclosed pricing mechanisms, they have been able to raise funding for the project. As a result of the market liberalization with the Electricity Market Law (Nr. 4628 / 03.03.2001), the legislative framework has been altered such that the BOT model is not applicable in Turkey anymore. Existing BOT projects are allowed to run in accordance with their special contracts, but new investments are subject to the current legislation.

As of now, there are 13 wind farms in operation in Turkey[2]. 8 of them are Independent Power Producers (IPPs), which either have undergone or is going through VER-registration. Two of them are BOT projects. One of them is an Autoproducer. As BOT and autoproducer wind farms are not liberal electricity market players, they cannot be compared to current activities and are not considered as common practice nor similar projects.

The remaining two projects are 1,5 MW İzmir Çeşme and 0,85 MW İstanbul Silivri wind farm projects. 1,5 MW İzmir Çeşme wind farm has been built and operated under the BOT model and later on the business model has been changed to IPP.

As a result, the 0,85 MW İstanbul Silivri wind farm project is the only wind farm example realized without the receipts of VER-sales, which is a very small wind farm. Since it is not comparable in terms of size and feasibility figures, it cannot be considered as a common practice or a similar project.

1 Build-Operate-Transfer
2 EMRA website (http://www.emra.gov.tr/lisans/elektrik/yek/ruzgarprojeleriningelisimi.xls)

CAR 4: An additional short investment analysis shall be performed besides of the barrier analysis in order to show that the project activity is not yet a financially attractive investment, because it is obvious that Turkey meanwhile attract all wind turbine producers and service providers linked to the wind power industry worldwide. For this investment analysis it has to be taken into account the additional cost of the erection of the transmission line, road construction and also the previous revision of the Renewable Energy Law in Turkey (18th of April, 2007), which guarantees now a higher electricity feed in tariff for 10 years, which was probably not known, when the bank decision on the project financing was on the agenda.

According to the UNFCCC "Tool for Demonstration and Assessment of Additionality", Version 4, an investment analysis, a barrier analysis, or both can be applied. The PDD includes a barrier analysis and there is no clear indication in the Additionality Tool[3] that an additional investment analysis is required. A feasibility analysis will be supplied to the DOE as a separate Microsoft-Excel spreadsheet, indicating relevant financial figures for both projects.

As of May 30th, 2008, EMRA has issued 79[4] wind farm projects a generation license (total capacity 2.919,4 MW). 13 of them are in operation (total capacity 249.35 MW) and 4 of them are under construction (total capacity 226,8 MW). The progress of the remaining wind farm projects is unknown, and several licenses and license applications have been cancelled due to various reasons in the past by EMRA. This illustrates that there is a low correlation between wind power project license ownership and project implementation and that implementation of wind power projects in Turkey is rather difficult. In the past, a significant percentage of applications and granted licenses have either been rejected or cancelled later, therefore the available licenses have a low realization implication. In Turkey, generation license is actually the equivalent of a pre-permit, which allows the project owner to apply for necessary permits and is therefore to understand only as "intent" to build a generation facility rather than an investment decision or a concrete plan (On the "November 1st, 2007 license applications", there are some extremely unrealistic license applications as much as 3000 MW for one single wind farm). Please note that a large portion of the available licenses (total 2919,4 MW) was available since 2003 and only a very small fraction of them could be realized (several are terminated or cancelled as well). Even this realization rate is seen as a very big success, as project developers must invest heavily in terms of time and money and take very high political, legal, organisational, technical and operational risks without seeing their future.

3 Tool for the demonstration and assessment of additionality, version 5
4 EMRA Website, http://www.epdk.gov.tr/lisans/elektrik/yek/yeklisansgeneltablo.xls

Please note that the term “installed capacity” refers to the technical output of the turbine design and not to the “actually installed” wind turbines. As of now, all wind farms in operation under IPP model have undergone a VER-procedure, with the only exception of the 0,85 MW Istanbul Silivri wind farm project, which is an outlier and nonsimilar in terms of size. Moreover, all the 4 wind farm projects currently under implementation are undergoing a VER-procedure as well. Keeping also the low realization rate of licenses into actual projects in mind, the current practice indicates the need of VER-sales for project realization. Preliminary talks with banks have started after the legislative change regarding renewable electricity prices, which took place with the enforcement of the Energy Efficiency Law of May 2nd, 2007. As also seen here, the change in the legislation is another uncertainty in Turkey during project development, as project development and permitting processes take a long time, posing further risks for investors and project developers. Article 17 of the Energy Efficiency Law (Nr. 5627) sets out that electricity from renewable energy sources shall be purchased by retail companies for a period of 10 years. The same article limits the price between 5 – 5,5 € Cents per kWh (please note that there is no price cap for other conventional type of electricity like coal and nuclear power and that currenly market wholesale price of electricity is higher than this upper limit). Since wind farm projects require higher initial investment, the pay back period of such projects take longer and higher incomes become necessary, especially until the loans are paid back. Although this price bracket is guaranteed by the government, it is lower than the required purchase price needed for the financial feasibility of the project. Please note that there is no bank decision or financial closure of the project yet, therefore the project is still under development. Besides, the contract drafts and necessary accompanying legal framework for the guaranteed electricity sales has not been prepared by the relevant authorities, making it impossible to make use of the price incentives of the law. As wind farm equipment is mostly imported in EURO-currency and market prices are in YTL currency, this furthermore puts some foreign exchange risk on the investment. The high variability of interest rates and foreign exchange rates have been elaborated in later sections. As of 18.06.2008, the Turkish Central Bank borrowing rate in YTL is 20,25%, which gives a rough idea of the high level of interest rates (which is the cost of money) in Turkey.

4.5 Monitoring

Referring to Part B and Annex 4 of the PDD.

The project applies the approved monitoring methodology ACM0002 version 07 “Consolidated monitoring methodology for zero emissions grid-connected electricity generation from renewable sources”. The selected monitoring methodology is applicable for the project activity as it involves grid-connected renewable power generation using wind energy.

4.5.1 Parameters determined ex-ante

The combined margin emission factor is determined ex-ante based on the most recent information available. More detailed information is provided below.

4.5.2 Parameters monitored ex-post

This section shall include an evaluation of the data and parameters that need to be monitored.

The methodology requires monitoring of the following for wind farm projects:
• Electricity generation from the proposed project activity;
• Data needed to recalculate the operating margin emission factor, if needed, based on the choice of the method to determine the operating margin (OM), consistent with "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (ACM0002);
• Data needed to recalculate the build margin emission factor, if needed, consistent with "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" (ACM0002);
The operating margin and build margin emission factor are determined ex-ante, therefore the parameter monitored ex-post is the electricity generation from the proposed project activity. The net electricity generated from the project will be measured continuously and recorded monthly. This data will be cross verified against the sales receipt from the grid. A cross-check during the on-site assessment showed, that the measured and recorded electricity values are correct and traceable by verifiers.

Other data to be monitored ex-post are the sustainable development indicators. These indicators are described in in annex 4 and annex 7 of the PDD.

FCAR3: In order to ensure the integrity of the Gold Standard it is recommended to further elaborate in preparation of the first verification of the project, if there are any critical sustainable indicators resulting from the design, construction or operation of the wind farm and include at least the employment numbers in the monitoring plan because of the possibility for fluctuation and subsequent negative effects on stakeholder acceptance.

During the on-site assessment the verifier came to the conclusion, that the project activity has resulted in more positive effects for sustainable development in the region of the wind power projects than described in the PDD.

Such samples are the high local content of sub-contracts during operation and also the mainly employment of local residents and their further professional education throughout Demirer Holding with support and long-term commitment of the German manufacturer Enercon.

4.5.3 Management system and quality assurance

The project's operation and maintenance manual needs to include:

- A description of the responsibilities and authorities for project management,
- Procedures for monitoring and reporting, and QA/QC procedures,
- A description of the installation of metering equipment,
- Procedures for the calibration of metering equipment,
- A description of training and maintenance needs.

These procedures will be maintained and implemented to enable subsequent verification of emission reductions.

Relevant Corrective Action Requests (CARs) and Clarification Requests (CLs) could be successfully resolved and are summarized below for transparency reasons:

CL 5: It has to be clarified, if detailed procedures have been elaborated and are in place and if a CO2 consultant will be subcontracted to ensure the data preparation for a smooth verification execution.

The verification procedures will be conducted by project participants with the support of carbon consultants South Pole and Mavi Consultants. The carbon consultants have a contractual obligation to supervise the monitoring procedure and assist Demirer in the preparation of the monitoring protocol and throughout the verification process.

CL 10: It has to be clarified, which procedures and responsibilities are in place for the execution of the monitoring and reporting and calibration as well as verification preparation.

The monitoring plan involves the net electricity generation by the project activity;

- The two measurement instruments, which are located at the high voltage side of the main switchgear station, are not accessible by the project participant or any other party except TEİAŞ. This prevents any intervention and assures the accuracy and quality of the measurements.

- The measurement instruments give two types of data; the total gross electricity generated and the total electricity consumed by the wind farm. The difference of these two data is the net electricity generated. Furthermore, TEİAŞ cuts a certain percentage of the generation to account for transmission losses. The net electricity generation, which is to be monitored and to be used for baseline emissions, is the net electricity generation, which is read by TEİAŞ for invoicing.

At the end of each monitoring period, the data from the monthly meter readings will be added up to obtain the total monitoring period net electricity generation. This figure will be multiplied with the combined margin, which has been calculated ex-ante.
The switchgear station, where the measurement instruments are read periodically by TEİAŞ, is only accessible to trained TEİAŞ staff. On the last day of each month, the TEİAŞ staff performs the reading, upon which the invoicing will be based.
There are two measurement instruments monitoring the generated electricity continuously. Furthermore, a SCADA system monitors and stores various data including the electricity generation of each wind turbine separately. The project participant is able to monitor the electricity generation data read by the SCADA system as well as the two measurement instruments from distance, however it has no control over or access to the measurement devices and cannot perform any type of maintenance or calibration.
The net electricity generated and delivered to the grid can be monitored from TEİAŞ invoices, from the Market Financial Settlement Centre (MFSC) website or the SCADA system.
For verification, a monitoring report will be prepared by project participants with the support of the carbon consultants using the electricity generation data acquired from the measurement devices as explained above. Moreover, the monitoring report will contain information on the QA/QC procedures followed to assure a certain acuracy of the monitoring data (such as calibration of the electricity meters, readings made etc.).

The exact coordinates of the turbines will be given in the verification report as well, along with the official electricity generation figures so that double counting of emission reductions can be excluded.

4.6 Estimate of GHG Emissions

Referring to part B and Annex 3 of the PDD.

The emission reduction ERy by the project activity during the crediting period is the difference between baseline emissions (BEy), project emissions (PEy) and emissions due to leakage (Ly), as follows:
1) Baseline emissions: baseline emissions (BEy in tCO2) are the product of the baseline emissions factor (EFy in tCO2/MWh) times the electricity supplied by the project activity to the grid (EGy in MWh).
2) Project emissions: there are no emissions from the project which is a renewable energy project.
3) Leakage: no leakage has to be considered for the proposed project activity.
4) Emission reduction: ERy= BEy- PEy- Ly= BEy.

For the calculation of the operating margin (OM) emission factor, the simple OM emission factor calculation method is selected because low cost must run projects constitute less than 50% of the total grid generation and data is not available for applying the dispatch data analysis.

The aggregated generation and fuel consumption data are used due to the fact that more disaggregated data are not available in the Turkish National Power Grid (TNPG).

Country specific data for net calorific value (NCVi) of each type of fossil fuel, the IPCC 2006 default values for the oxidation factor of each type of fossil fuel and the total electricity delivered to the TNPG are selected and are deemed reasonable.

Vintage data for the years 2004, 2005 and 2006 from Statistical Yearbook 2006 and from UNFCCC National GHG Emission Inventory are used for operating margin calculation. The OM is calculated to be 0.679 tCO2/MWh as a generation-weighted average for the three years.

Because plant specific fuel consumption and electricity generation data is not public available in Turkey, the following approach approved by the CDM Executive Board for such cases deemed to be applicable for this project.
- Use of capacity additions for estimating the build margin emission factor for grid electricity.
- Use of weights estimated using installed capacity in place of annual electricity generation.
- Use the efficiency level of the best technology commercially available in the National grid of Turkey, as a conservative proxy, for each fuel type in estimating the fuel consumption to estimate the build margin (BM).

Following the EB's guidance the build margin is calculated as follows:
- The capacity additions from the years 2003 to 2006 is chosen, which comprise 20% of total system generation and that have been built most recently was established using public available data from the official website of the Turkish National Power Grid Company TEIAS.
- The generation efficiencies per power plant were obtained due to non-availabilty of data per power plant from the Integral Pollution Prevention and Control (IPPC) "reference document on best available techniques for large scale combustion plants" as a conservative approach, since not all power plants reach these efficiencies.
- For the conversion into t CO2 / GWh were the default emission factors of 2006 IPCC National GHG inventory applied.

- The EFBM is calculated as 0.503 tCO2/MWh.

The weights ωOM and ωBM are selected as 0.75 and 0.25, respectively, as stipulated for wind project by ACM0002 (version 06). The combined margin of 0.635 tCO2/MWh is fixed exante for the entire first crediting period.

Relevant Corrective Action Requests (CARs) and Clarification Requests (CLs) could be successfully resolved and are summarized below for transparency reasons:

CL 3: Clarify, if latest public data from TEIAS, UNFCCC national GHG Emission Inventory of Turkey, latest Statistical Yearbook of Turkey were used for the emission factor calculation and which source is recommended from the Turkish Focal Point of Turkey as official source for this purpose. It has to be clarified, if meanwhile more updated information is public available from the Turkish grid operator TEIAS in order to ensure, that the project activity, which is considered as Gold Standard Project applies the most conservative emission factor.

All data used for emission calculations are the most recent, up to date, publicly available and official data. The National Focal Point of Turkey does not recommend a data source for such purposes. The latest data are acquired from TEİAŞ and utilized in the PDD ensuring the most conservative emission factor.

CL 4: Clarify and list the power plants, which have been modified, retrofitted, dismantled or are stand-alone, have been excluded from the build margin calculation as required by the relevant methodologies and tools in order to apply the most conservative combined margin emission factor for the project activity. Please provide excel sheets of emission factor calculation and copy of used sources in order to re-trace the different steps of the calculation.

The PDD has been modified in accordance with this request. Stand alone generation facilities are not filtered out, since the available data is not detailed in that aspect. However, the PDD describes and provides reference to the negligibly small share (<0,2% in recent years) of stand alone power units in the overall generation. The emission factor has been calculated in the most possible conservative way, and is lower than most of the emission factors of similar projects in Turkey. The emission factor calculations and used sources are provided to the DOE as a separate, traceable Microsoft-Excel spreadsheet.

4.7 Environmental Impacts

Referring to Part D of the PDD.

No Environmental Impact Assessment (EIA) has been performed, because there is no legal obligation for wind power projects according to the Ministry of Environment and Forestry of Turkey.

The potential environmental impacts have been sufficiently identified. No significant environmental impacts are expected from the project activity. The local authorities could confirm this issue during stakeholder consultations.

It was confirmed during on-site assessment, that the project proponent is committed to collaborate closely with the stakeholders, in the planning of the construction phase, in order to minimise impacts to the environment, ensure safety and minimise disturbance to activities present at the project site.

FCAR3: In order to ensure the integrity of the Gold Standard it is recommended to further elaborate in preparation of the first verification of the project, if there are any critical sustainable indicators resulting from the design, construction or operation of the wind farm and include at least the employment numbers in the monitoring plan because of the possibility for fluctuation and subsequent negative effects on stakeholder acceptance.

The PDD has been updated and contain under annex 4 and annex 7 further relevant information, see also section 4.10 and section 4.11 of this report. Hence FCAR3 can be considered as resolved and can be closed.

Further information to the assessment and elaboration of environmental impacts with regard to Gold Standard is summarized for transparency reasons under chapter 4.10,g,h and 4.11.

4.8 Comments by Local Stakeholders

Referring to Part E of the PDD.

There is no mandatory requirement to conduct a local stakeholder consultation for wind projects in place in Turkey.

A voluntary stakeholder consultation process has been performed through inviting local residents to comment on the project activity. The initial stakeholder (ISC) meeting announcement was published in “Olay” and “Sonsöz” local newspaper.

A summary and a written report was submitted to the validation team. In November and December 2007, the staff from the project owner carried out a survey through questionnaires on the local residents in the area where the project will be sited. There were no adverse comments on the project activity and all comments are supportive of the project which has created new job opportunities in the region including Üvecik Village.

A summary of comments is provided and has been verified by TÜV Rheinland. Follow-up interviews of the Mukhtar of Üvecik Village and other local residents were performed during the on-site assessments. During the visit the discussion was focussed on the status of the project implementation and the appreciated addionally voluntary commitments of the project proponent to the nearby Üvecik Village throughout a possible CSR project concept, which is the sale of local products in a newly to be build local cooperative.

The planned employment of local residents for the construction phase and the later operational phase could be verified. The overall positive impact of these measures could be confirmed also during the meeting with the Mukhtar of Üvecik Village, Mr. Nail DINCKAL.

The output of the main consultation with a overall duration of 60 days, which is a report including all written and oral comments given as well as the argumentation on whether or not the comments are taken into account, has been submitted to the validation team.

The report of the main consultation was completed on 18th of June 2008 and was reviewed by TÜV Rheinland and deemed adequate and transparent without concluding further corrective action or clarification requests.

Relevant Corrective Action Requests (CARs) and Clarification Requests (CLs) could be successfully resolved and are summarized for transparency reasons under chapter 4.10, i.

4.9 Comments by Parties, Stakeholders and NGOs

The PDD, the non-technical project summary and the Initial Stakeholder Consultation Report was made available under the web pages of:
Mavi Consultants: http://www.maviconsultants.com/download eng.html
and
South Pole: http://southpolecarbon.com/goldstandard consultations.htm

for a voluntary global stakeholder consultation process from March 31st, 2008 until May 31st, 2008 (timeframe of 60 days of main stakeholder consultation).

Parties, stakeholders and NGOs were through these web sites invited to provide comments.

Comment by:
☒ Accredited NGO ☐ Party ☐ Stakeholder
Inserted on:
Subject:

Comment: One comment was received during the above global stakeholder consultation process from Greenpeace Turkey, a GS-supporting NGO. Another written comment came from the local NGO GÜMCED.

How has considered the comment received in its validation:

A description of how the has taken due account of the comment received.

N/A: The comments were all supportive

4.10 Gold Standard Requirements

The Gold Standard requests besides of the successful assessment against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, the fulfilment of the requirements for Voluntary Offset Projects under the Gold Standard.

Projects which pass the screens listed in Box 1 are eligible for the Gold Standard.

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Box 1: Overview of The Assessment Framework and Its Three Screens

Project Type Eligibility Screen (see Ch.3.2)
- Project type check
- Host country eligibility check

Additionality Screen (see Ch.3.3)
- Previous public announcement check
- Additionality tool
- Conservative approach check
- Technology transfer and/or technology innovation

Sustainable Development Screen (see Ch.3.4)
- Sustainable development assessment
- Environmental Impact Assessment (EIA)
- Public consultation procedures

In the following sections these additional requirements are assessed and evaluated.

a) Eligibility of the project for Gold Standard

Project Type Check:

According to the Gold Standard all projects technologies included in the figure below are eligible.

Box 5: Eligible Project Types

Renewable Energy (see section A.1 below)

- PV
- Solar thermal
  - Electricity
  - Heat
- Ecologically sound biomass, biogas and liquid biofuels
  - Heat, electricity, cogeneration
  - Transport
- Wind
- Geothermal
- Small low-impact hydro, with a size limit of 15 MW, complying with WCD guidelines

End Use Energy Efficiency Improvement (see section A.2 below)

- Industrial energy efficiency
- Domestic energy efficiency
- Energy efficiency in the transport sector
- Energy efficiency in the public sector
- Energy efficiency in the agricultural sector
- Energy efficiency in the commercial sector

The assessed project uses a renewable energy technology namely wind energy. This project uses an ecologically sound electricity generation and the emission reductions due to replacement of electricity generated mainly by grid connected coal-fired power plants count towards the project's overall emission reductions. Hence the project is eligible under Gold Standard.

Host Country Check

The host country does not have a quantitative reduction target under the Kyoto Protocol. Turkey acceded as the 189th Party to the UNFCCC on 24 May 2004. Turkey is therefore now listed in Annex-I to the UNFCCC, but not listed in Annex-B to the Kyoto Protocol (no quantified emissions limitation or mitigation commitment yet), therefore, not a Party to the Kyoto Protocol yet! Conclusion: Turkey is eligible as host country for Gold Standard Voluntary Offset Projects.

Project Size Check

Table 4: Definitions of Micro-, Small- and Large-Scale Projects with the GS for Voluntary Offsets

Micro-scale	Small-scale	Large-scale
<5k tCO2e per year	>5k and <15k tCO2e per year	>15k tCO2e per year

The project activity is assumed to achieve annual emission reductions of 51,955 t CO2 e, which is belonging to the category of large-scale projects under GS for Voluntary Offsets.

b) Technological transfer

The project activity results in technology and knowledge transfer related to:
• Import of wind turbines from abroad (Enercon GmbH from Aurich, Germany)
• Training of skilled labour in the region to operate and maintain the power plant

c) Sustainable development screen

The project has used the sustainable development indicators matrix as required by the Gold Standard. The total score obtained is a +3 (+5 before GS synthesis from 6-week registration review), where:

- Local/regional/global environment has a subtotal of +1 (before: +2)
- Social sustainability and development has a subtotal of +1
- Economic and technological development has a subtotal of +1 (before: +2)

For none of the indicators a negative score has been given. All the assumptions used to define the score values have been reviewed by the validator, based on submitted documentation and the on-site visit made during the validation of the project. Hence this criteria have been correctly demonstrated by the project proponents in a very conservative way without any overestimation of any of the indicators.

Relevant Corrective Action Requests (CARs) and Clarification Requests (CLs) could be successfully resolved and are summarized below for transparency reasons:

CL 2: It has to be clarified, how the described sustainable indicators can be monitored in practice (more details on procedures and forms of reporting) in order to prevent any misuse and ensure the integrity of the Gold Standard. How will be critical parameters like noise level in residential areas and influence on birds be monitored ex-post ?

According to Gold Standard criteria, only monitoring indicators with a significant negative impact on the environment or on socio-economic issues need to be monitored throughout the crediting period of the project. As explained below, neither noise levels nor influence on birds are deemed to be of relevance in the context of the proposed project activities.

Since micrositing is not finalized, it is not possible to give accurate data about the distances of wind turbines to the closest houses. The project covers a large region, however roughly the turbines will at least have hundreds of meters distance from the nearest villages. Both projects will make use of Enercon turbines, which have the unique feature of gearless design. The lack of a gearbox causes these turbine to work more efficiently, smoothly and quieter. During the initial stakeholder consultation meeting, participants asked about the noise level of the wind turbines. For noise issues, the project has to be in compliance with the relevant regulation, as this is an obligatory step in the permit process of the Turkish legislation. For both projects, the noise level that will be felt in the closest housing is below the levels mentioned in the „„Regulation on assessment and management of environmental noise"", Articles 29 and 44. After the construction, legal noise requirements will be monitored by the Turkish Ministry of Energy and Natural Resources and its affiliated responsible bodies, ensuring that neighborhoods are not affected adversely. Regarding the bird migration routes, no major impact is expected. Migrating birds in Turkey are flying at an altitude higher above of the turbine heights and are therefore expected not to be impacted by the projects. Local birds get used to the locations of the turbines fairly quickly and no impact is expected on them as well. Actually, there are several examples of birds (falcons) nesting in cages mounted on wind turbine towers. Birds often collide with high voltage overhead lines, masts, poles, and windows of buildings. They are also killed by cars in the traffic. A study from the Danish Ministry of the Environment says that power lines in general are a much greater danger to birds than the wind turbines themselves.
Birds are seldom bothered by wind turbines and a radar study show that birds -day or night- tend to change their flight route some 100-200 metres before the turbine and pass above the turbine at a safe distance5. Environmental aspects of wind farm projects are exempt from the EIA requirement in Turkey, indicating their minimal impact on the environment. As a result, no monitoring is planned for the impacts on birds or the noise level. The noise level tests of Enercon turbines will be supplied to the validation team as a separate document.

5 Canadian Wind Energy Association Conference, 1997. Source:Danish Wind Industry Association (http://www.windpower.org)

CL 7: It has to be clarified, which additional community benefits were offered to the residents of neighbouring villages and if during the main stakeholder consultation and global stakeholder consultation period further comments have been received.

Although additional community benefits are not obligatory, project participants prefer to implement some community projects as a firm strategy in terms of Corporate Social Responsbility in their projects. For these two projects, project participants are willing to discuss the needs of the local communities and carry out projects in line with sustainable development. No comments have been received from local stakeholders regarding community benefits during the Main Stakeholder Consultation. As a CSR project concerning the Çamseki project Initial Stakeholder Consultation, a concept idea has been shared with female attendants which involves the sales of local products through a women initiative cooperative – to be developed and established with the support of project participants. Some attendants have found the idea interesting and some of them unrealistic. A part of the attendants have said that they would answer after speaking with their husbands, and some of them told that they have no idea about the subject. A deadline (January 4, 2008) has been set until when the attendants would give feedback about the project. Until deadline, only 4 women have applied for the cooperative, therefore this idea has been abandoned. Later on, further discussion led to the idea of sponsoring the construction of an integrated village market in Üvecik village.

Accordingly, the market structure construction are planned to be supported financially and in other terms, and the details will be clarified in coming stages.

9 http://www.southpolecarbon.com/goldstandard_consultations.htm
10 http://www.maviconsultants.com/download_eng.html

c) Use of the additionality tool

The project follows in a correct form every step of the approved additionality tool.

- The guidance of Gold Standard Foundation for retro-active crediting is not applicable as the project is not a retroactive project
- Step 1 defines correctly all the alternative scenarios and the consistence with the laws and regulations.
- Step 2 (investment analysis method) was not applied, because the project activity with these features and scale is considered as "First-Of-Its-Kind" in Turkey.
- The barriers and related documentation presented in Step 3 have been further substantiated after there was occuring an unexpected further delay in the registration procedure.
- The further confidential documents made available and explanations given, which contain a bank letter about VER consideration, the board decision about prior VER consideration, concerns of the bank regarding annual debt service coverage ratio, leading to MOU with consideration of VER revenues, barriers related to innovative gearless technology and skilled labour, are substantiating the claimed barriers for the implementing of the project activity in the host country Turkey.
  These arguments have been checked by the validation team based on local and sectoral knowledge and found plausible and appropriate for this specific project activity. They have been accepted by the validation team.
- Step 4 shows that there is no similar project. After the Turkish Parliament took its decision in 2005 on a new Law on Utilisation of Renewable Energy Resources for Electricity Production, all new projects installed had to compete economically. Because the tariff is much below the average remuneration in the leading European wind markets it means that especially for small and medium-sized investors there are still only limited perspectives. There are no other projects not applying for VER after 2005. From the view of the validator only private entities are investing so far in wind farms in Turkey with high risks.

Hence the project has demonstrated the additionality correctly using the tool approved by the CDM Executive Board of UNFCCC with special focus on the early consideration of VER and the demonstration and justification of barriers. Further information on the detailed assessment and evaluation on the identified barriers and prevailing practice is provided under chapter 4.4.

e) ODA Additionality screen

The chapter A.4.4 clearly shows that ODA funding has not been included to realise any step of the process and even the bank's funds do not include any ODA funding. Hence the project complies with the requirements.

Relevant Corrective Action Requests (CARs) and Clarification Requests (CLs) could be successfully resolved and are summarized below for transparency reasons:

CL 11: It has to be certified by a chartered financial auditor, that no ODA was used for project financing.

The PDD has been updated in accordance with this request. A sworn statement of a financial consultant, which a statement, that confirms that no ODA was used for the project, was provided.

CL 1: Starting date of the project Clarify by relevant documents the date of
• Real action
• Construction
• Implementation of the VER project activity.
The project participants shall further demonstrate the additionality of the VER project activity taking into account also further evidence of VER consideration.

The planned start dates are provided below. Please note that the implementation of the project is dependent on the VER-revenues and the dates are preliminary:

Alize Çamseki 20,8 MW Wind Farm Project
Contruction of roads and site preparations: July 2008
Erection of turbines: October 2008
Operational start: February 2009

As a result of former cooperation and a jointly owned blade factory in Turkey, the project participants have close business relationships with the German turbine manufacturer Enercon. Therefore, the turbine delivery can be accomplished much more smoothly and quickly. Talks with banks have only been preliminary and there is no financial closure yet.
There has been no public announcement for the projects being started without the consideration of VERs. Moreover, the GS VER validation of the project started well before financial closure of the project, which is the best evidence that the project participants have decided to invest and construct the project activities making use of VER revenues in order to overcome the barriers that would prevent the projects from being constructed. The information letter to the Turkish UNFCCC focal point, the stakeholder consultation meetings and the board decision by the project owner, are additional documents that are available as evidence for early VER consideration.

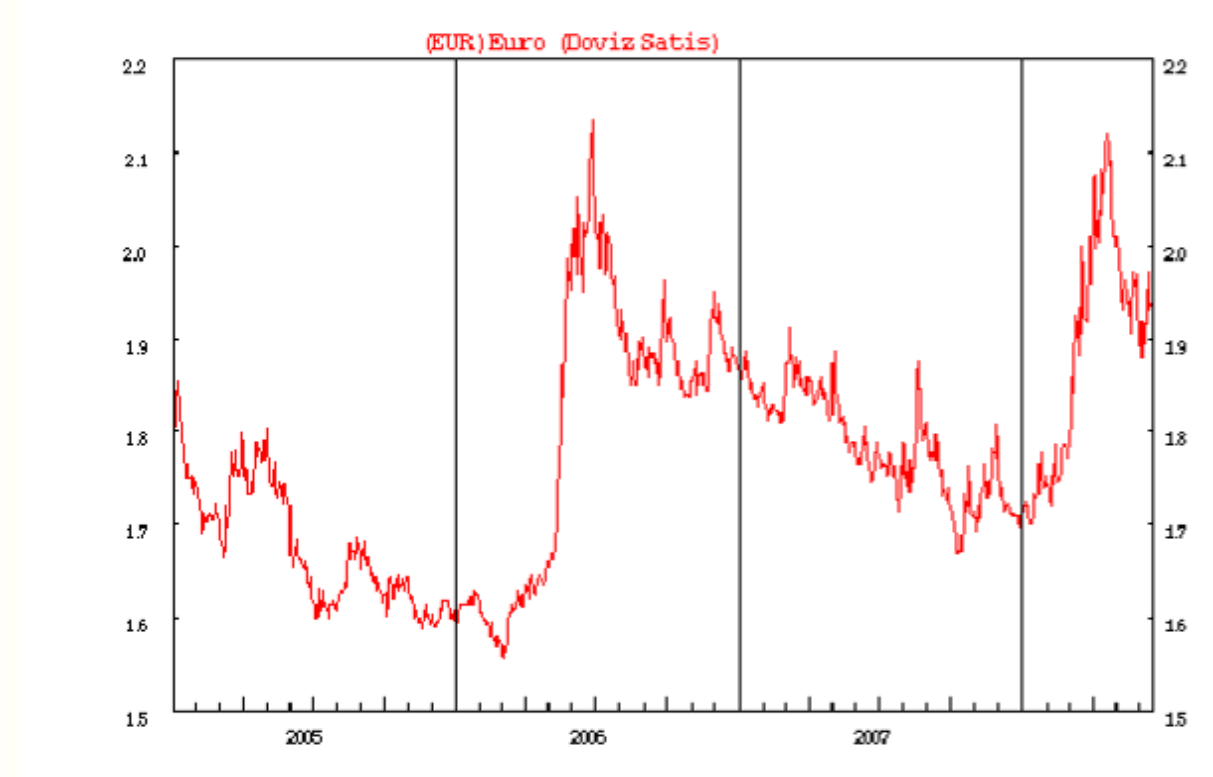
CL 9: Please clarify the date of the Board Decisions of Demirer Holding or other Project Participants on Consideration of VERs for the Camseki Üvecik 20.8 MW Wind Farm Project.

Please provide documental evidence of the whole decision process of Demirer Holding and other project participants from site selection, wind speed measurement, application of license (20.8 MW; transmission line), feasibility study to final loan application, taking into account of VERs for co-project financing.

The effects of changes of the Renewable Energy Law and changes of the currency exchange rates and interest rates for long-term loans have to be further elaborated. This has to be certified by an independent chartered financial auditor from Turkey.

For the Camseki Üvecik 20.8 MW Wind Farm Project, the board decision is dated to July 6th, 2007. The board decision is met before the financial closure of the projects. Additional documents related to consideration of VERs for achieving financial closure of the project will be provided to the DOE, once they become available (financial closure is not reached yet).

As stated above, the Energy Efficiency Law Nr. 5627 of May 2nd, 2007 included an amendment concerning the Renewable Energy Law Nr. 5346. This change introduced a price range of 5-5,5 € Cents per kWh for electricity generated from renewable resources and guaranteed the purchase of electricity for a certain period of time.
The EUR/YTL exchange rate between 01.01.2005 and 17.06.2008 is provided below[11]:
11 Source: Turkish Central Bank (www.tcmb.gov.tr)

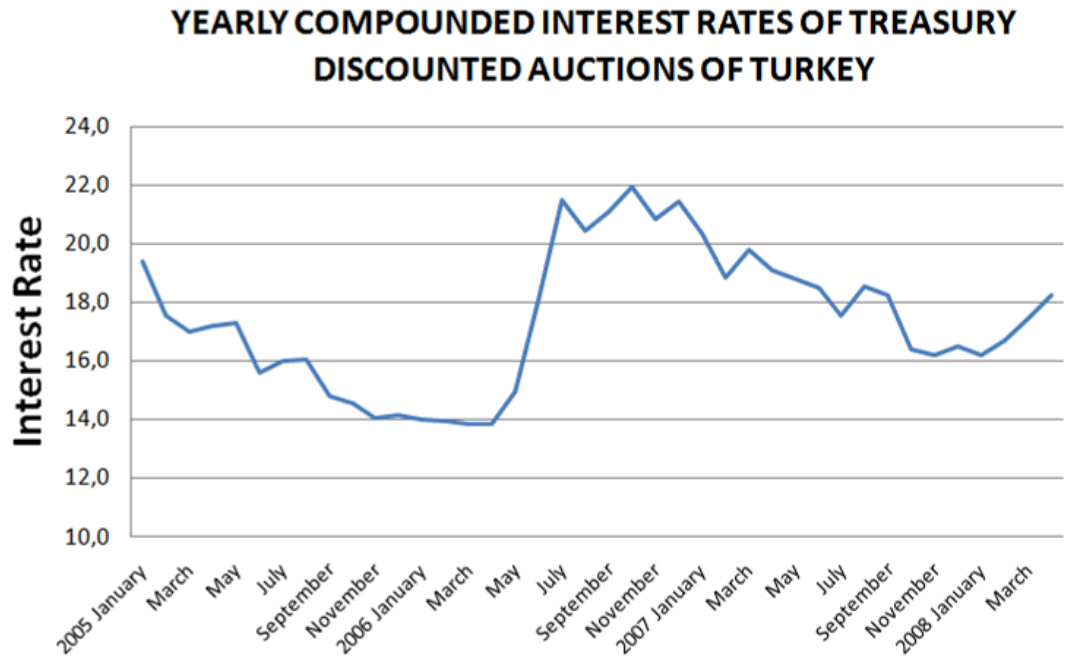


As seen from the figure above, the exchange rate of EUR/YTL has moved in a very large band, without a clear trend. This shows the risks associated with investments in foreign exchange terms and with receipts in YTL. It further examplifies the unforeseeable investment environment in Turkey and other financial uncertainties tied together with macroeconomic indicators. Since the inflation rate in Turkey is higher than the EUR-area all the time, economically it should be expected that YTL would be depreciated over time against EURO. The figure above does not indicate such a trend, which is not attractive for an investment with loans in EURO terms and revenues in YTL terms. The project activity faces investment barriers in this regard. Please note the extremely steep devaluation of YTL in the beginning of 2008, further demonstrating economic risks the project participants are assuming by obtaining loans in EURO terms.

Figure below shows the interest rate trends in Turkey between January 2005 and April 200812. It indicates the variable nature of borrowing interest rates of the Treasury of Turkey, during the last three years, it has moved in a band of 14% and 22%, without a clear trend. In macroeconomic world, government borrowing interest rates are regarded as a primary indication of the economic stability, the constantly changing trend of interest rates show the unpredictability of the investment conditions in Turkey, further adding to business risks. The spread between interest rates and the inflation rate is defined as real interest rate, which is the real cost of money. It should be noted that this difference is much more higher than in the EU, putting pressure on investments towards having much higher ROE13 than in the EU, and this is a major barrier for investments in Turkey, especially for projects primarily financed through long maturity loans –just like the project activity does.

12 Source: Turkish Undersecretariat of Treasury (http://www.hazine.gov.tr/irj/go/km/docs/documents/Treasury%20Web/Statistics/Economic%20Indicators/egosterge/VI-KamuMaliyesi/Kamu%20Maliyesi.xls)

13 Return on Equity



The trend of Turkish interest rates in 2008 is rising –this means that the investment environment is becoming harsher for companies. Another highlight in the figure is the fast jump of the rate in June 2006 –only emphasizing more the unpredictability of business investments in Turkey and the challenges companies must face with.

Since only barrier analysis is used and the investment analysis is skipped in agreement with the Additionality Tool, there is no need for a certification of these data by a chartered financial auditor. All the data stated and referred above is official data available on world wide web.

f) Use of conservativeness

The PDD has been prepared in a professional way. All the assumptions and parameters used for in the PDD comply with the conservativeness criteria.

This applies for the following criteria:

- Deduction of 6.3 % from annual energy yield prediction
- Plant load factor
- Combined margin emission factor
- Sustainable development indicators

Moreover the following conservative approaches have been applied:

- For imports from connected electricity systems located in another host country(ies), the emission factor is 0 tons CO_2 per MWh.
- Capacity additions from retrofits of power plants should not be included in the calculation of the build margin emission factor.
- Power plants registered as CDM / VER
- project activities should be **e**xcluded from the sample group m.

Hence it is clear that the project proponent was aware of the necessity of such an approach and has applied it in every item where possible, in order to avoid any artificial inflating of the number of VERs resulted for the project activity.

g) Monitoring of sustainable development parameters

The PDD shows all the parameters to be monitored. The monitoring process of every parameter is clearly explained in the PDD. Hence the monitoring plan is plausible and verifiable if implemented as stated in the PDD. As there is no critical parameter according to the Sustainable Development Assessment Matrix no further monitoring regarding sustainability is necessary.

FCAR3: In order to ensure the integrity of the Gold Standard it is recommended to further elaborate in preparation of the first verification of the project, if there are any critical sustainable indicators resulting from the design, construction or operation of the wind farm and include at least the employment numbers in the monitoring plan because of the possibility for fluctuation and subsequent negative effects on stakeholder acceptance.

The PDD has been updated and contain under annex 4 and annex 7 further relevant information, see also section 4.10 and section 4.11 of this report. Hence FCAR3 can be considered as resolved and can be closed.

h) Environmental Impacts

An environmental impact analysis is not required by the regional environmental authority in Turkey. According to the GS an EIA should be performed if any sustainable development indicator is scored with -1.

Hence this project does not need an EIA to comply with the GS requirements. All the possible impacts caused by the project activities have been clearly explained in the PDD and during the on-site assessment and follow-up.
The assessment includes all the relevant environmental issues as land use, noise, waste water and sewage, dust and air quality, ecological environment and interference with communication. Every of these aspects have been clearly elaborated in the PDD and the relevant documents. The complete information has been submitted to the validator. Hence the project is considered to comply with the environmental impact criterion.

FCAR3: In order to ensure the integrity of the Gold Standard it is recommended to further elaborate in preparation of the first verification of the project, if there are any critical sustainable indicators resulting from the design, construction or operation of the wind farm and include at least the employment numbers in the monitoring plan because of the possibility for fluctuation and subsequent negative effects on stakeholder acceptance.

i) Stakeholder consultation requirements

The project proponent has carried out two stakeholder consultations as required by the Gold Standards. All relevant stakeholders have been invited through the project consultant's websites and through local newspaper announcements and written and personal invitations one week before the initial stakeholder meeting. As required by the GS a list of the consulted stakeholders has been submitted to the validator.

The initial stakeholder process included a questionnaire to determine the environmental impacts caused by the project. Moreover, the GS-supporting NGO´s WWF, Greenpeace and REEEP have been invited to participate. No one of them could participate due to unavailability.

As a result supporting letters have been received from Greenpeace Turkey, a GS-supporting NGO, from the local NGO GÜMCED and from the Üvecik village headman.

The presentation has been held in Turkish and has contained a non-technical summary of the project, the explanation of the sustainable development impacts and a checklist on environmental and social impacts as well an article about global warming by Prof. Dr. Osman Demircan of Canakkale University.

Questions raised during the meeting were answered by Mr. Ahmet Aracman, Demirer Holding and are summarized in the report.

Based on the results of the consultation it is clear that no EIA is necessary for this project.

For the second stakeholder consultation a second call for comments have been submitted to all the relevant stakeholders along with the PDD, and a non-technical summary.

The National Focal Point of Turkey, the Ministry of Environment and Forestry was also invited and informed about the project activity.

No further comments were received.

Hence the requirements for local stakeholder process for Gold Standard projects have been fulfilled.

Relevant Corrective Action Requests (CARs) and Clarification Requests (CLs) could be successfully resolved and are summarized below for transparency reasons:

CAR 3: The output of the main consultation with a overall duration of 60 days, which is a report including all written and oral comments given as well as the argumentation on whether or not the comments are taken into account, has to be submitted to the validation team.

The Alize Çamseki 20,8 MW Wind Farm Project Main Stakeholder Consultation (MSC) process has begun on March 31st, 2008 and ended on May 31st, 2008.

All relevant stakeholders have properly been invited to provide their comments and all necessary documentation has been sent in accordance with GS requirements.

The MSC processes have been finalized without any stakeholder comments.

4.11 Gold Standard Requirements from 6-week registration review period

GS Comment/Request 1

1. Annex 1 of the PDD should include contact information of Alize Enerji Elektrik Üretim A.S who is listed as project participant in section A.3 of the PDD.
2. The cover letter should be signed by all project participants listed in section A.3 of the PDD.
3. The chosen crediting period is not consistent with the information provided in the GS registry. Please correct the information provided in the registry accordingly.
4. To be consistent with information presented in other sections of PDD, rated output of wind turbines mentioned (10 x 2.1 MW) in Annex 4 of the PDD should be corrected.
5. In section 3.4 of the validation report it has been stated that a comment on the project activity has been received from WWF during the Global Stakeholder Consultation Process (GSP) whereas section 4.9 of the validation report states that comments during GSP have been received from Greenpeace Turkey and local NGO Gümced. The DOE should please revise the validation report to provide consistent information.

Section 4.2 of the validation report mentions the start date of crediting period as January 1st, 2009 whereas the PDD in section C.2.1.1 states the start date of crediting period as February 1st, 2009. Consistent information should be presented in all project documents.

Response by Project Proponent (round 1)

1. The PDD is revised as requested.
2. The cover letter has already been submitted to GS, without the signature of South Pole Carbon Management, because South Pole is no longer a PP. South Pole (Ms Angela Knill) informed the Gold Standard (Mr Meinrad Bürer) about it in October 2009. SP's involvement in the Project will completely end at the date of successful GS-registration.

The PDD section A3 is revised accordingly.
3. The crediting period is corrected to 7 years, in agreement with the registry.
4. The PDD is corrected accordingly.
5. This request adresses the DOE. The Project did not receive any feedback from WWF. As NGOs, Greenpeace and Gumced have provided comments. The validation report should be revised.

The starting dates of the crediting period and the Project activity are revised in the PDD with the latest information. The validation report should be revised accordingly.

Response by DOE (round 1)

1. Annex 1 is completed with the contact information of the project implementing and operating entity Alize Enerji Üretim A.Ş. considered as local project participant in the host country Turkey.
2. The cover letter and section A.3. of the PDD have been revised.
3. The crediting period is 7 years renewable.
4. The PDD, section A.4.3. with the correct technical data of the wind turbines has been revised accordingly.
5. The validation report, section 3.4. has been revised and contains the information about the received written comments of the GS supporting NGO Greenpeace Turkey and the local NGO Gümçed.
6. The validation report has been updated with regard to the starting date of the crediting period to 24/06/2009.

GS Comment/Request 2

Please revise the starting date in section C.1.1. of the PDD as it coincides with the starting date of the crediting period. This is not consistent with the information provided in the registry. The starting date should be defined as per the guidance provided by the CDM EB in paragraph 67 of its 41st meeting report.

Response by Project Proponent (round 1)

The starting dates of the crediting period and the Project activity are revised in the PDD.
Project starting date: chosen as equipment order (financial closure) on 16.06.2008.
Crediting period start: 24.06.2009 (start date of commercial operation)

Comment: Please note that some of the information on the GS Registry are not correct (i.e. average VER volume, date of first operation, construction start date, project website address, other project participants) – these parameters are not changeable by the PP and should be revised by the GS according to the PDD, if necessary.

Response by DOE (round 1)

The selected starting date of the project activity 16/06/2008, which is the turbine order signature date is now in compliance with the definition of the starting date according the CDM glossary of terms.

GS Comment/Request 3

Regarding the SD Matrix Indicators, please clarify following points:

- *Other pollutants*. Waste oil generation and its disposal should be monitored. The SD matrix does not consider impact of Noise pollution created by the project. The PPs indicate that the project activity will have noise levels within acceptable limits. This aspect should be monitored.
- *Biodiversity*. Please clarify if trees will have to be cut to erect wind turbines, make access roads and to erect transmission lines. This issue should be discussed under impacts on biodiversity and appropriate mitigation measure should be proposed and monitored.
- *Employment (quality*). This indicator has been scored +1 and it is indicated that employment of the skilled staff has a significant impact on job quality in the rural context of the project. It is essential to monitor this indicator through suitable parameter due to its indicated significance.
- *Please mark all SD indicators to be monitored with an (*).*
- *Comments received during local stakeholder consultation.* Stakeholders enquired during the local stakeholder meeting if implementation of the project activity will have any impact on the availability of breeding grounds for their livestock. The PPs have clarified that there will be no such impact due to the project activity. Suitable parameter(s) should be identified and be included in the monitoring plan to monitor this aspect.

Please note that all SD indicators that are particularly sensitive to changes in the framework conditions need to be monitored.

Response by Project Proponent (round 1)

- Other pollutants: The total oil consumption of the whole Project is ca. 350 litre per year on average (most of the oil consumption is every 4 years: the first year overall oil consumption is ca. only 100 litres). As far as the PP knows, this is by far the lowest oil consumption among different wind turbine manufacturers. The oil to be disposed of is even less than this due to oil loss (evaporation) during operation. This oil residue will be stored in containers on site until it reaches a certain value and then will be gathered by licensed disposed companies.
- Biodiversity: There have been no trees cut for the Project activity (neither to erect turbines nor to build roads) due to lack of natural vegetation at the region.
- Local Employment: Employment in terms of both quality (application of health and safety precautions) and quantity (number of jobs created by the Project) will be monitored. The PDD is revised accordingly.
- SD Indicators to be monitored (air quality, employment quality, and employment number) are marked with an asterisk in the revised PDD.
- The Project area is not fenced whatsoever and local animals, if any, are able to roam freely on the Project site. The area is not used for breeding purposes but for daily feeding purposes by animals of local people (ca. sheep, cattle etc.). The Project is currently in implementation and there is no reported problem associated with animal feeding. If requested by the GS specifically, we can add a monitoring plan checking the existence of such a fencing (?) around the whole area.

The validation report should be revised according to these revisions in the SD matrix.

Response by DOE (round 1)

The explanations given by the project proponents are plausible and can be confirmed as reliable based on the local and sectoral knowledge of the validation team. Annex 4 (Monitoring Information) and Annex 7 (Gold Standard Information) of the PDD have been updated accordingly, leading to an overall scoring of + 3 for the sustainability of the project activity.

GS Comment/Request 4

The argumentation provided for the barriers mentioned on p.14 under the section on access to finance (country risk, long payback period, lack of project finance), bureaucratic difficulties, government policies and prevailing practice are of generic nature. They can be provided in a section describing the general context in which the investment decision is taken but the actual demonstration of additionality through a barrier analysis requires the demonstration of project specific barriers supported by convincing, available documentation to be checked and validated by the DOE, as per the CDM Validation and Verification Manual (VVM) guidelines. Please therefore demonstrate for example the lack of project finance for this specific project by discussing under what conditions a loan was secured (inc. the role of carbon revenues) and providing related documentation to the DOE (board decisions, letter from financiers, etc.). The DOE has stated in the validation report that the annual debt service cover ratio was the main concern of the bank which is providing the loan and has led to the MOU of the bank for financing with VER revenues. The PPs should provide this information in the PDD. Furthermore, evidences shall be referred to in the PDD and listed in the Validation Report. The DOE in its validation report shall clearly define as to how they have validated this barrier. This should include clear information on assessment of the available evidences and how these evidences demonstrate existence of a barrier.

Also, as per the VVM guidelines, issues that have a clear direct impact on the financial returns of the project activity cannot be considered in the barrier analysis but should be assessed by an investment analysis or be removed. The transmission fee, the equipment selection, the lack of local infrastructure, or the logistic barriers mentioned in the PDD are such issues and therefore cannot be retained for the demonstration of additionality through a barrier analysis.

According to the Validation Report, Demirer Enerji (joint venture partner in project) develops and builds wind projects since 1996. The PPs should please clarify why barriers such as lack of skilled labour or technology transfer remain relevant despite this long history of wind power project development. To be retained in the argumentation, the DOE in its validation report should confirm the existence of technological barriers based on information available from independent sources of data. The DOE should also confirm in the validation report that these barriers are relevant enough to prevent the project owners from carrying out the project activity without being registered as a VER project, or raise CAR(s) to get these barriers removed from PDD.

Under the Licensing barriers it is indicated that harsh climatic conditions present at project site pose a risk for the project to be completed on time. The harsh climatic conditions should be further elaborated by PPs. The DOE, based on its sectoral and local expertise should

confirm that this barrier is real and relevant enough to prevent the project owners from carrying out the project activity without being registered as a VER project.

Please make sure to provide publicly available references to support the statements made about all barriers potentially retained in the demonstration of additionality.

Response by Project Proponent (round 1)

- A bank letter about the consideration of VER revenues and insufficient debt coverage ratio in the loan has been provided to the DOE. The barriers in the PDD are reformulated to make it more specific, based on this bank letter. A board decision dating back to 06.07.2007 (before the loan applications were made) suggests the consideration of VER revenues (Annex 5 in the PDD)
- The requested revision to the PDD is made, indicating that the annual debt service cover ratio was the main concern of the bank which is providing the loan and has led to the MOU of the bank for financing with VER revenues, as requested. The bank letter for VER consideration is submitted to the DOE as objective evidence.
- As requested by the GS, finance-related barriers are removed. Nonetheless, we kindly want to point out that these deleted additional costs (higher turbine cost, unexpected transmission line construction cost etc.) are not necessarily a mere economical barrier, they also present a barrier to the Project Owners in terms of:
    - Unanticipated costs and related budget-planning difficulties (requiring change of feasibility studies, internal budget allocations, loan decisions etc.)
    - Increase in project/financial risks considering the relatively small size of the Project Owner (higher loan amounts, the repayment guarantee of which are given by collaterals of the Project Owner lead to higher liabilities of the mother company)
    - Increase in the amount of collaterals blocked by the bank for loan payback guarantee, which at the same time reduces the capability of the Project Owner to get other loans for other projects (as Turkish banks often require unused collaterals for extending a loan)
    - Delay of other wind projects as a result of limited equity of the Project Owner [confidential information: The mother company of the Project Owner, Demirer Enerji, had to sell off the "Soma 140.4 MW Wind Farm Project, Turkey" to Polat Enerji as a result of these consecutive, unexpected difficulties, distorting the financial forecasts of Demirer Enerji]
    - Increased unexpected work load (e.g. due to assumed tendering responsibilities for the transmission line, time and permits needed to open new roads, etc.), which also created delays in project development and difficulties other than only financial ones. The Project Owner has a small technical project development team and every additional work means "opportunity cost", at the expense of other wind farm projects.

  Therefore, inclusion of additional cost items in the PDD were not meant to point out the decrease in the Project IRR, but rather associated barriers with them. However due to GS request, we have deleted them completely.
- History of Demirer Enerji: Demirer Enerji is the very first wind energy company in Turkey and has installed the first wind farms at a time, when there was no legal framework or support for renewables whatsoever. Furthermore, different from energy companies, which invest in all kinds of technologies (e.g. lignite, wind, coal etc.),

Demirer Enerji chose to focus on wind because of its company vision and sustainability principles. Several projects of Demirer Enerji have a history more than 10 years before realization, indicating the work and investment in it[1]. In this sense, the Turkish wind industry agrees that Demirer Enerji is the pioneer in the creation of a sector as this. During this period of time, Turkey has gone through 3 very severe economical crises (2001 global crisis, 2005 local crisis, the 2007 global credit crunch); an 2001-dated energy scandal where all the permits were halted abruptly due to some corruption claims, and the complete overhaul of the electricity market (market liberalization started in 2001 and the renewable energy law was finally enforced in 2005). Demirer Enerji resisted all these shocks and remained in the sector due to its financial difficulties. Please note that wind power development (starting with wind measurement) is very new in Turkey. Most of the competitors started operations in recent years after the creation of the market (even after 2005, the renewable energy law), or started project development later on after a fair amount of geographical/meteorological information were published. In this sense, Demirer has a unique position and a good reputation in the market.

- The barrier related to technology and skilled labour: GS asks whether Demirer Enerji still suffers technological difficulties although it has been active since 1996. Demirer Enerji, after realizing its first wind farms in Turkey, has co-invested with Enercon in a wind turbine blade factory in Izmir. Today, this factory produces and exports blades all over the world. This suggests the extent of know how transfer Demirer Enerji has facilitated. Again Demirer Enerji stimulated local wind mast production, which led to numerous new employment opportunities and technology development of service/equipment suppliers. Enercon wind turbines (which are used for the Project activity) have unique specifications as needing minimal amount of oil thanks to its gearless technology, lower noise compared to similar turbines, associated positive environmental and social impacts, grid friendliness (the use of Enercon turbines put a lower burden on transformer stations, thus allowing more wind capacity to be connected to the same transformer station compared to other turbines[2]), reduced need for maintenance and lower malfunctioning risks. These are innovative features Enercon turbines have. A similar approach is also true for blade production, where the design and finishing quality have significant impacts on performance. A maintenance company, Enercon Servis Ltd., is also established through Demirer Enerji and its wind farm projects. Enercon Servis Ltd currently develops technical design of Demirer's wind projects, in collaboration with Enercon headquarters, further suggesting the "side-effects" of Demirer Enerji investments. These positive contributions to sustainable development and technology transfer are unique. On the other hand, the import of technology, implementation of knowhow locally and establishing new systems and training local people has not been and is not being a very easy task. Apart from the project personnel, Demirer Enerji team is actually a small team with limited time and resources. Each Project has its own difficulties regarding physical challenges, technical design, permits, ever developing turbine and control technology, local circumstances etc.

[1] There were no reliable official terrain maps, wind atlases, local wind speed data and other climatological information to identify good wind sites. The required information for the Project Activity has been obtained with own wind and geological measurements by the company itself since 1996 over the 12 years with a significant amount of investment.

[2] Technical properties can be elaborated in detail if required

There is no university or similar degree in Turkey, which educates skilled personnel for the wind sector, and the number of skilled people in the sector is very few, requiring Demirer Enerji to always hire new people and train them by assuming related time investment and costs. In this sense, although being the first-mover, due to the innovative nature of the industry and the Project Owner, there are always knowhow-related challenges the Project Owner has to overcome.

- The barrier related to climate conditions: the barrier is deleted.

The validation report should be revised accordingly.

Response by DOE (round 1)

The further confidential documents made available and explanations given, which contain a bank letter about VER consideration, the board decision about prior VER consideration, concerns of the bank regarding annual debt service coverage ratio, leading to MOU with consideration of VER revenues, barriers related to innovative gearless technology and skilled labour, are substantiating the claimed barriers for the implementing of the project activity in the host country Turkey.
These arguments have been checked by the validation team based on local and sectoral knowledge and found plausible and appropriate for this specific project activity. They have been accepted by the validation team.

Another very important argument which further substantiates the additionality of the project is the proven early VER consideration, based on the project starting date and the main project milestones, whereas the starting date shall be considered to be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity, whereas minor pre-project expenses should not be considered in the determination of the start date.

The project starting date (16th of June 2008 is after the signature of the carbon consultancy agreement (15/11/2007) and the local Stakeholder Meeting in Üvecik village (29/11/2007).

Hence, this confirms the serious VER consideration prior to proceeding with the project.

GS Comment/Request 5

Please include in the PDD a clear timeline for project implementation and activities carried out to achieve GS registration. This should include information on timing of project investment decision, signing of VER sale contract, contracting DOE, equipment purchase contracts etc.

Response by Project Proponent (round 1)

The timeline of the Project is added to the PDD (Barriers Section).
The validation report should be revised accordingly.

Response by DOE (round 1)

The timeline of the main milestones have been added as a main argument for the early consideration of VER and hence as a substantiation of the additionality of the project activity.

GS Comment/Request 6

The source of information on efficiency of power generation technologies as defined in Footnote 18 in the PDD is not clearly identifiable. This source is also different from information provided in section B.6.2 of the PDD, which refers to Annex 1 of 'Tool to calculate emission factor for an electricity system.

Response by Project Proponent (round 1)

References for efficiency rates are added to the PDD. The discrepancy is removed. Actually both sources (IPCC BAT and UNFCCC Tool) give the same efficiency rates.

Response by DOE (round 1)

The sources of references for the applied efficiency rates of power generation technologies have been disclosed.

GS Comment/Request 7

1. FCAR3 mentioned in several sections of validation report should be converted to a CAR and properly addressed by PPs.
2. Section 3.4 of the validation report states that it will undergo technical review, as part of internal quality control, before request for registration of the project activity is submitted to GSF. DOE should clarify if this requirement was fulfilled.

Response by Project Proponent (round 1)

1. As suggested by the DOE and the GS, the SD indicators are revisited and three indicators are added to the monitoring plan (employment number, employment quality, air quality). This FCAR3 can be deleted from the validation report.
2. This request adresses the DOE.

Response by DOE (round 1)

Both FCAR3 and also GS Comment/Request 3 have been sufficiently addressed these issues. Hence FCAR3 is considered as resolved and can be closed.

GS Comment/Request 8

The validation report should mention how global stakeholders have been invited to provide comments during the 60-day GSP.

It is not evident from web links given in the PDD, which documents were made available for GSP, what was the period of this process and what comments have been received. The DOE and PPs are requested to provide clarification.

Response by Project Proponent (round 1)

The MSC report has been submitted to the DOE and is also uploaded the GS Registry. In short, the stakeholders who were invited to the ISC but did not attend the meeting were contacted during the 60-days MSC (31.03.2008-31.05.2008) through e-mail. 16 stakeholders are invited by e-mail, no response is obtained. In addition, the project documentation and call for comments have been publicly published in carbon consultants' web sites (South Pole and Mavi Consultants home pages). The validation report should be revised accordingly.

The project documentation has been made available online starting from 31.03.2008 and have been deleted on 01.06.2008, allowing public view for at least 60 days. Therefore these links do not work anymore. South Pole and Mavi Consultants have made the draft GS PDD (which also included the ISC report as an annex) and the non-technical PDD summary in local language downloadable as pdf files. The validated MSC report has been uploaded to the GS registry on 17.03.2010 (was already submitted to the DOE during validation).

Response by DOE (round 1)

The Alize Çamseki 20,8 MW Wind Farm Project Main Stakeholder Consultation (MSC) process has begun on March 31st, 2008 and ended on May 31st, 2008.

All relevant stakeholders have properly been invited to provide their comments and all necessary documentation has been sent in accordance with GS requirements.

The MSC processes have been finalized without any stakeholder comments, see also conclusion on CAR 3 under section 4.10.i. of this report.

GS Comment/Request 9

1. The date of site visit by DOE should be mentioned in the validation report. Was it 2 March 2008 (date when interviews were conducted), i.e. before the first version of PDD was made on 27 March 2008?
2. The DOE shall explain how it ensured that the stakeholder consultation report accurately reflects the concerns of the local stakeholders with just one community representative (final validation report p9) interviewed.

Response by Project Proponent (round 1)

1. The first version of the PDD was prepared by Mavi Consultants in February 2008 and submitted to the DOE after internal quality control on 28.03.2008 (evidence available upon request). The typo in the validation report caused this ambiguity – the site visits have been conducted in April 2008 (between 02.04.2008-04.04.2008), and not in March 2008. The validation report should be corrected accordingly.
2. The interview was carried out in Uvecik village coffee house. There have been other village inhabitants present during the interview in the coffee house as observers, who chose not to speak. Therefore the interview does not only represent personal comments of just one person, but the voice of the village headman representing his community, which is natural under local customs and habits in the project region. Also, the ISC meetings (one for male, one for female) in the village was attended by various village inhabitants who provided their comments as much as possible, which are in agreement with the interview.

Additional Notes by the PP

- *Punctuation in the PDD is corrected (“,” for thousand, “.” for decimals)*
- *Changes regarding the project in the meantime are corrected (e.g. Turkey signing the Kyoto Protocol, start date of the project activity and crediting etc.)*
- *GS ISC report is deleted from Annex 8.*

Response by DOE (round 1)

It can be confirmed that a typo error has been occurred in the validation report, which has been corrected. The on-site assessment has been undertaken in April 2008 (between 02.04.2008-04.04.2008), and not in March 2008. Follow-up interviews have been performed in the coffee house of the Üvecik Village with Mr. Nail DINÇKAL, village headmen in the presence of other village inhabitants, with Prof. Dr. Osman DEMIRCAN Çanakkale University, Departure of Geography, Physical Science and Mrs. Cagla Balci ERIS, Commercial Coordinator Asst. of DEMIRER HOLDING.