



VERIFICATION REPORT

KELTEPE WIND FARM PROJECT - TURKEY

DEMIRER ENERJI ÜRETİM SAN. TIC. A.S

Monitoring Period:



2009-07-10 to 2010-02-28

Report No: 8000381665 - 10/122GS

Date: 2010-09-30

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Final approval by: Mr. Rainer Winter	Organisational unit: TÜV NORD JI/CDM Certification Program															
Client: Demirer Enerji Üretim San. Tic. A.Ş.	Client ref.: Mrs. Çağla Balcı Eris															
<p>Summary: Demirer Enerji Üretim San. Tic. A.Ş. has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 1st periodic gold standard verification of the VER project “<i>Keltepe Wind Farm Project - Turkey</i>”, with regard to the relevant requirements of Gold Standard. The project activity generates electricity by using of available wind energy at the project site. This verification covers the monitoring period from 2009-07-10 to 2010-02-28 (both days included).</p> <p>The verification is based on the monitoring reports^{/MR1/, /MR-2/}, the monitoring plan as set out in the validated GS PDD, the GS validation report, emission reduction calculation spreadsheet and evidence of sustainable development made available to the TÜV NORD JI/CDM CP by the project participant.</p> <p>As the result of the 1st periodic verification, the GHG emission reductions are calculated and sustainable development indicators are reported without material misstatements in a conservative and appropriate manner. Also, no changes occurred to the selected sustainable development indicator compared to the PDD. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions and sustainable development in the above mentioned reporting period as follows:</p> <p>Emission reductions in monitoring period 2009-07-10 to 2010-02-28</p> <table> <tr> <td>Baseline emissions:</td> <td>30337</td> <td>t CO_{2eq}</td> </tr> <tr> <td>Project emissions:</td> <td>-</td> <td>t CO_{2eq}</td> </tr> <tr> <td>Emission reductions:</td> <td>30337</td> <td>t CO_{2eq}</td> </tr> </table> <p>Sustainable development</p> <table> <thead> <tr> <th>Parameter</th> <th>Achievement</th> </tr> </thead> <tbody> <tr> <td>SDI.10 / Employment Quantity (number of staff employed)</td> <td>7</td> </tr> <tr> <td>SDI.6 / Employment Quality (number of staff present at trainings)</td> <td>3</td> </tr> </tbody> </table> <p>Essen, 2010-09-30</p> <p>Essen, 2010-09-30</p> <p> Rainer Winter TÜV NORD JI/CDM Certification Program, Team Leader</p> <p> Eric Krupp TÜV NORD JI/CDM Certification Program, Final Approval</p>		Baseline emissions:	30337	t CO _{2eq}	Project emissions:	-	t CO _{2eq}	Emission reductions:	30337	t CO_{2eq}	Parameter	Achievement	SDI.10 / Employment Quantity (number of staff employed)	7	SDI.6 / Employment Quality (number of staff present at trainings)	3
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Indexing terms

Climate Change, CDM, Renewable Energy, Verification, Kyoto Protocol

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Abbreviations:

CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO₂	Carbon dioxide
CO_{2eq}	Carbon dioxide equivalent
CL	Clarification Request
DEÜ	Demirer Enerji Üretim San. Ve Tic. A.S
GSD	Gold Standard Documentation
GSR	Gold Standard Requirements
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
MP	Monitoring Plan
MR	Monitoring Report
PDD	Project Design Document
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
TEIAS	Turkish Electricity Transmission Company
UEDAS	Uludag Elektrik Dağıtım Anonim Şirketi
UNFCCC	United Nations Framework Convention on Climate Change

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1. INTRODUCTION

Demirer Enerji Üretim San. Tic. A.S has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the Gold Standard (GS) verification of the project

“Keltepe MW Wind Farm Project - Turkey”

with regard to the relevant requirements for Gold Standard project activities. The ‘*Keltepe Wind Farm Project - Turkey*’ is a registered Gold Standard VER project and listed in GS registry under project number *GS437*. The verification covers the monitoring period 2009-07-10 to 2010-02-28. Correspondingly emission reductions occurred in the considered monitoring period claim for crediting.

GHG data was verified in a detailed manner applying the set of requirements, audit practices and principles as required under the Gold Standard Requirements^{/GS/} as well as the Validation and Verification Manual^{/VVM/} of the UNFCCC.

This report summarizes the findings and conclusions of this Gold Standard verification of the above mentioned GS registered VER project activity.

1.1. Objective

The objective of the verification is the review and ex-post determination by an independent entity of the GHG emission reductions and the contribution to sustainable development. It includes the verification of the:

- Implementation and operation of the project activity as given in the PDD,
- compliance of the actual monitoring systems and procedures with the provisions of the monitoring plan as a part of registered PDD, the GS monitoring matrix and the applied approved monitoring methodology;
- data given in the monitoring reports by checking the monitoring records, the emissions reduction calculation and supporting evidence
- accuracy of the monitoring equipment
- quality of evidence
- significance of reporting risks and risks of material misstatements.

1.2. Scope

The verification of this GS registered VER project is based on the validated project design document^{/PDD/}, the carbon monitoring and sustainability monitoring report^{/MR-1/}, the registered GS validation report^{/VAL/}, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment. Furthermore publicly available information was considered as far as available and required.

The verification is carried out on the basis of the following requirements, applicable for this project activity:

- Article 12 of the Kyoto Protocol ^{/KP/},
- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 17/CP.7 ^{/MA/}, and subsequent decisions made by the Executive Board and COP/MOP,
- Gold Standard Version 1 ^{/GS/}
- other relevant rules, including the host country legislation,
- CDM Validation and Verification Manual ^{/VVM/}
- monitoring plan as given in the registered PDD ^{/PDD/}
- Gold Standard Monitoring matrix as given in the registered PDD ^{/PDD/}
- Approved CDM Methodology ACM 0002 version 7 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources ^{/ACM0002/}

2. GHG PROJECT DESCRIPTION

2.1.1. Project Characteristics

Essential data of the project is presented in the following Table 1-1.

Table 1-1: Project Characteristics

Item	Data
Project title	Keltepe Wind Farm Project - Turkey
Project size	<input checked="" type="checkbox"/> Large Scale <input type="checkbox"/> Small Scale
Gold standard registration No.	GS437
Date of Gold Standard registration	18 th September 2009
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	1: Energy Industries (renewable - / non-renewable sources)
Applied Methodology	ACM 0002 version 7 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources
Crediting period	Renewable Crediting Period (7 y)
Start of crediting period	2009-07-10

2.1.2. Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 1-2).

Table 1-2: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	Turkey	Alize Enerji Elektrik Üretim AS ve Demirer Enerji Üretim San. Ve Tic. A.S.

2.1.3. Project Location

The details of the project location are given in table 1-3:

Table 1-3: Project Location

No.	Project Location
Host Country	Turkey
Region:	Marmara Region
Project location address:	Balıkesir Province-Keltepe

2.1.4. Project Technical Description

The project involves the operation of 20.7 MW wind farm in Balıkesir province in Turkey. The project is constructed and operated by Demirer Enerji Üretim San ve Tic A.Ş and consists of 23 wind turbines E44 of 900 kW, supplied by Enercon. The project activity included the establishment of grid connection by development of 13 km of new transmission line between the project and the national grid. The project is connected to the 154 kV high-voltage transmission lines at the transformer station to deliver the generated 72.2 GWh/year net electricity to the Turkish national grid. By replacing fossil fuel power generation in Turkey, the greenhouse gas emission reduction achieved during the above specified monitoring period is 30,337 t CO_{2eq}. The key parameters for the project are given in table 1-4:

Table 1-4: Technical data of the plant

Wind Turbine	
Type:	E-44
Manufacturer:	ENERCON
Quantity:	23
Rated Power per unit:	900 kW
Transmission line voltage	22 kV
Wind farm output transformer	154 kV
Turbine concept	Gearless, variable speed, variable pitch control
Rotor type	Upwind rotor with active pitch control
Direction of rotation	Clockwise
Number of blades	3
Swept area	1,521 m ²
Blade material	Fibreglass (epoxy resin); integrated lightning protection
Rotational speed	Variable, 12 – 34 rpm
Pitch control	ENERCON blade pitch system, one independent pitching



	system per rotor blade with allocated emergency supply
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3. METHODOLOGY AND VERIFICATION SEQUENCE

3.1. Verification Steps

The verification consisted of the following steps:

- Appointment of team members and technical reviewers
- A desk review of the monitoring report including claimed emission reductions and additional supporting documents submitted by the client
- Verification planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project proponent and its contractors
- Draft verification reporting
- Resolution of corrective actions (if any)
- Final verification reporting
- Technical review
- Final approval of the verification.

The verification of this project was carried out from March 2010 to July 2010.

3.2. Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consistent of one team leader and 2 additional team members, was appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table (3-1) below.

Table 3-1: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence	Technical competence ⁴⁾	Host country Competence	Team Leading competence
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Rainer Winter	TN CERT	TL	SA	<input checked="" type="checkbox"/>	T	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Alexander Richter	TN CERT	TM	E	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Ingo Klein	TN CERT	TR ³⁾	E	<input checked="" type="checkbox"/>	T	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Sinan Karan	TÜV NORD Turkey	TM	TE	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Eric Krupp	TN CERT	FA	SA	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

¹⁾ TL : Team Leader; TM : Team Member, TR: Technical review; FA: Final approval

²⁾ GHG Auditor Status: A : Assessor; E : Expert; SA: Senior Assessor; T : Trainee; TE: Technical Expert

³⁾ No team member

⁴⁾ As per S01-MU03 or S01-VA070 A2 (such as A, B, C.....)

3.3. Verification Planning

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.

Various tools have been established in order to ensure an effective verification planning.

Project specific periodic verification checklist

In order to ensure transparency and consideration of all relevant assessment criteria, a project specific verification protocol is developed. The protocol shows, in a transparent manner, criteria and requirements, means and results of the verification. The verification protocol serves the following purposes:



- It organises, details and clarifies the requirements a GS CDM project which is expected to meet for verification
- It ensures a transparent verification process where the verifying DOE documents how a particular requirement has been proved and the result of the verification.

The basic structure of this project specific verification protocol for the GS verification is described in table 3-2.

Table 3-2: Structure of the project specific periodic verification checklist

Table A-2: Periodic Verification Checklist			
Expectations for GHG data and sustainability indicator management system/controls	Comments	Draft Concl.	Final Concl.
<i>The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data and sustainability indicator management system/controls are assessed against the expectations detailed in the table.</i>	<i>Description of circumstances and further commendation to the conclusion.</i>	<i>This is either acceptable based on review of MR and supporting Documents (OK), or a Corrective Action Request (CAR) of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Draft Verification report. The Initial Verification has additional Forward Action Requests (FAR). FAR indicates essential risks for further periodic verifications</i>	<i>CARs and CRs raised in the Draft Conclusion have to be closed or resolved. The final conclusion determines the final statement. FARs could remain in this section as they are subject in the next consecutive verification.</i>

The GS verification checklist (verification protocol) is the backbone of the complete verification starting from the desk review until final assessment. Detailed assessments and findings are discussed within this checklist and not necessarily repeated in the main text of this report.

The completed verification protocol is enclosed in the annex (table A-1) to this report.

3.4. Desk review

During the desk review all documents initially provided by the client and publicly available documents relevant for the verification were reviewed. The main documents are listed below:

- the last revision of the carbon / sustainability monitoring report, including the claimed emission reductions for the project^{/MR-1/},
- the registered version of the GS PDD and attached documents, including the monitoring plan^{/PDD/},

- the registered GS validation report ^{/VAL/},
- the emission reduction calculation spreadsheet ^{/XLS/}

Other supporting documents, such as publicly available information on the Gold standard website, the UNFCCC website and background information were also reviewed.

3.5. On-site assessment

As most essential part of the verification exercise it is indispensable to carry out an inspection on site in order to verify that the project is implemented in accordance with the applicable criteria. Furthermore the on-site assessment is necessary to check the monitoring data with respect to accuracy to ensure the calculation of emission reductions. Changes to the key sustainable development indicators and the achievement and implementation of mitigation / compensation measures are other integral parts of the on-site assessment.

Keeping in mind the principles of materiality and quality of evidence, typical activities on-site include but are not limited to:

- The on-site assessment included an investigation of whether all relevant equipment is installed and works as anticipated.
- The operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures.
- Information processes for generating, aggregating and reporting the selected monitored parameters were reviewed.
- The duly calibration of all metering equipment was checked.
- The operator has provided evidence that all metering equipment was duly calibrated.
- The monitoring processes, routines and documentations were audited to check their proper application.
- The monitoring data were checked completely.
- The data aggregation trails were checked via spot sample down to the level of the meter recordings.
- The sustainability indicators were checked of compliance with the registered monitoring plan.

The on-site audit was carried out on 2010-03-12 and 2010-03-13. Before and during the on-site visit the verifier of TÜV NORD JI/CDM CP performed interviews with the project participants to confirm selected information and to resolve issues identified in the document review.

Representatives of Demirer and Alize Enerji including the operational staff of the plant were interviewed. The main topics of the interviews are summarised in Table 3-4.

Table 3-4 Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Project & Operations Personnel, Demirer Enerji Üretim San ve Tic A.S. , Alize Keltepe Rüzgar Enerji Santrali	<ul style="list-style-type: none"> - General aspects of the project - Licence/ commissioning - Technical equipment and operation - Changes since validation - Monitoring and measurement equipment - Calibration procedures - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - GHG calculation - Procedural aspects of the verification - Maintenance - Environmental aspects - Sustainability indicators

3.6. Draft verification reporting

On the basis of the desk review, the on-site visit, follow-up interviews and further background investigation the verification protocol is completed. This protocol along with a general project and procedural description of the verification and a detailed list of the verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CRs and FARs.

3.7. Resolution of CARs, CLs and FARs

Nonconformities raised during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CARs) are issued, if:

- there is a clear deviation concerning to the above mentioned applicable criteria (esp. the monitoring plan).
- requirements set by the monitoring plan or qualifications in the validation opinion have not been met; or
- there is a risk that the project would not be able to deliver emission reductions.

Forward Action Requests (FAR) indicate essential risks for further periodic verifications. Forward Action Requests are issued, if:

- the actual status requires a special focus on this item for the next consecutive verification, or
- an adjustment of the monitoring plan is recommended.

The verification team also uses the term Clarification Request (CL), which is being issued if:

- additional information is needed to fully clarify an issue.

For a detailed list of all CARs, CLs and FARs raised in the course of the verification pl. refer to chapter 4.

3.8. Final reporting

Upon successful closure of all raised CARs, CLs the final verification report including a positive verification opinion can be issued. The final report summarizes the final assessments w.r.t. all applicable criteria.

In this case the assessment performed during the verification enabled the verifier to arrive at a positive conclusion regarding the readiness of the project to generate high quality emission reductions and to contribute to sustainable development.

In case not all essential issues could finally be resolved a final report including a negative verification opinion is issued.

3.9. Technical review

Before submission of the final verification report a technical review of the whole verification procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.10. Final approval

After successful technical review an overall (esp. procedural) assessment of the complete verification will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the verification team will submit the verification report including the verification opinion to the client via e-mail and to Gold Standard via the GS registry.



4. VERIFICATION FINDINGS

In the following paragraphs the findings from the desk review of the monitoring report^{/MR-1/}, the PDD^{/PDD/} and additional annexes for GS registration^{/PDD/}, the GS validation report^{/VAL/} and other supporting documents, as well as from the on-site assessment and the interviews are summarised.

The summary of CAR, FAR and CL issued are shown in Table 4-1:

Table 4-1: Summary of CAR, CL and FAR

Verification topic	No. of CAR	No. of CL	No. of FAR
H - Project history	0	1	0
U - Update on Changes and Incidents	1	0	0
R - Monitoring Reports – General	3	0	0
P - Monitoring Parameters	1	2	2
C - Emission Reduction Calculation	0	0	0
Q - Quality Management	1	0	1
SUM	7	3	3

The following tables include all raised CARs, CLs and FARs (without further discussion). For an in depth evaluation of all verification items it should be referred to the verification protocols (see Annex).

	Finding H1			
Classification	<input type="checkbox"/> CAR	<input type="checkbox"/> FAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> None
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Section A.6 and A.7 of the monitoring report is insufficient with regard to relevant milestones since investment decision. Thus, the PP is requested to elaborate the project history until end of 1 st monitoring period clearer. The elaboration to the history should at least comprise the following steps and corresponding dates: <ol style="list-style-type: none"> 1. recommendations by the manufacturer on the turbine model 2. licenses regarding the capacity increase 3. corresponding declaration of capacity increase to Ministry of Energy 4. final taking over of the plant by Ministry of Energy Sufficient transparency by adequate references to relevant supporting documents is requested.			



Finding H1	
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>There is no change of capacity between the registered PDD and the wind farm: the capacity is 20.7MW. But the project participant encountered difficulty to obtain the complete licenses and the project started to operate with only 21 turbines instead of 23. The situation has been cleared with a new legislation in 2009. Section A7 of the MR (version 1.3) has been completed and an additional history document is made available to the DOE.</p> <p>The main supportive documents about the Keltepe project history include the 3 documents (in Turkish and English):</p> <ul style="list-style-type: none"> · Alize's application letter to EMRA (page 1-3) (for CL H1-3.) · New Generation Lisense (page 4-6) (for CL H1-2.) · Last amendment of connection agreement between UEDAS and Alize Enerji Elektrik Üretim Anonim Sirketi (page 7-9). <p>The confirmation letter from Enercon for the choice of model is the answer to CL H1-1.</p> <p>The temporary acceptance protocol for the two last turbines has been obtained on 28th of April 2010, and it is now made available to the DOE (for CL H1-4).</p>
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The corrective action of the PP and supportive documents have been checked w.r.t. potential deviations from the registered PDD. it could be observed that the project has been implemented as described in the PDD and that the difficulties in obtaining the licences do not cause the necessity of revalidation, hence the verification team is convinced that the project complies with the relevant GS requirements.</p>
<p>Conclusion</p>	<p><input type="checkbox"/> To be checked during next periodic verification</p> <p><input checked="" type="checkbox"/> Appropriate action was taken</p> <p><input type="checkbox"/> MR was corrected correspondingly</p> <p><input type="checkbox"/> Appropriate action was not taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

Finding U1	
<p>Classification</p>	<p><input checked="" type="checkbox"/> CAR <input type="checkbox"/> FAR <input type="checkbox"/> CL <input type="checkbox"/> None</p>
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>The following aspects in section B.1.1 of the MR need improvement / clarification:</p> <ol style="list-style-type: none"> 1. wrong meter number, 53031746 2. missing meter number 3. calibration dates of meters 4. installation dates of meters <p>PP is requested to indicate the supporting document(s) that prove the validity of information.</p>



Finding U1	
<p>Corrective Action #1</p> <p><i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> 1. The serial number of the main meter of Actaris is 53031748 and it has been corrected in the MR (version 1.2). 2. The serial number of the spare meter of Köhler is 95833 and it has been completed in the MR. 3. Calibrations dates are completed in the MR. Note that Köhler meters have in reality two calibrations: a calibration by the technology provider of the meter, "Meter Test Reports of Köhler_Eng.pdf" dated from 17/03/2009 and also a calibration performed by circuit technicians of the grid operator during the acceptance procedure at the moment of their installation on 10/07/2009 for the main meter and respectively on 07/08/2009 for the spare meter, as documented on point number 2 of the letter of UEDAS dated from 08/04/2010 "Response by UEDAS_8.04.2010_Eng.pdf". Similarly, Schlumberger Actaris meters were calibrated at their installation on 12/08/2009. 4. Installation dates are completed in the MR. <p>Supportive documents are:</p> <ul style="list-style-type: none"> - The Meter Test Reports of Köhler - The Test Report of Actaris - The Meter & Metering Transformer Replacement Protocol - The Response by UEDAS dated from 08/04/2010
<p>DOE Assessment #1</p> <p><i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The MR has been further improved according to the finding, further clarification about the calibration and installation dates of meters is provided by the corrections done in MR (ver. 1.3). Supporting documents have been checked by the verification team in order to confirm the validity of information.</p>
<p>Conclusion</p>	<p><input type="checkbox"/> To be checked during next periodic verification</p> <p><input type="checkbox"/> Appropriate action was taken</p> <p><input checked="" type="checkbox"/> MR was corrected correspondingly</p> <p><input type="checkbox"/> Appropriate was action not taken</p> <p><input checked="" type="checkbox"/> The project complies with the requirements</p>

Finding R1				
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> FAR	<input type="checkbox"/> CL	<input type="checkbox"/> None



Finding R1	
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>The following editorial errors need correction / clarification:</p> <ol style="list-style-type: none"> 1. The project title of the PDD doesn't correspond to the project title in the Monitoring report. 2. Header of section A.8. 3. Relevance of Demirer Enerji Üretim San. Ve Tic. A. Ş. vs. Alize Enerji Elektirk Üretim A. Ş. 4. Relation of TEİAŞ vs. UEDAŞ 5. Header of section C.3. mentions "internal audits", without discussing the same in the respective section. 6. Further trainings for personnel took place in 2010. This may be mentioned in the monitoring report.
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<ol style="list-style-type: none"> 1. The title of the project is "Keltepe Wind Farm Project – Turkey" and it is consistent between the PDD and the MR. 2. Section A8 has been renamed "Changes during the monitoring period". 3. Keltepe Wind Power Plant belongs to Alize Enerji Elektrik Üretim Anonim Sirketi. Demirer Enerji is a shareholder company. 4. The Grid operator company name is Uludag Elektrik Dagitim Anonim Sirketi (UEDAŞ) and the MR has been corrected accordingly 5. The section C3 has been renamed "internal control measures and cross check possibilities" and completed with more details. 6. The monitoring report has been updated accordingly.
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The PP improved the MR according to the finding. In doing so sufficient clarification to the editorial mistakes has been provided in order to close CAR R1.</p>
<p>Conclusion</p>	<p> <input type="checkbox"/> To be checked during next periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate was action not taken <input checked="" type="checkbox"/> The project complies with the requirements </p>

Finding R2				
<p>Classification</p>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> FAR	<input type="checkbox"/> CL	<input type="checkbox"/> None
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>Section A.8 may be improved as replacement of transformer and meters took place. The reason for replacement shall be mentioned.</p>			



Finding R2	
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The replacement of Köhler meters by Schlumberger Actaris meters is in order to have a larger scale, as explained in the letter from UEDAŞ to Alize. An explanation is added in section A8 of the monitoring report.</p>
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Clarification is brought by the PP and the reason to change the Köhler meters by Actaris meters has been found to be justifiable by the DOE</p>
<p>Conclusion</p>	<p> <input type="checkbox"/> To be checked during next periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate was action not taken <input checked="" type="checkbox"/> The project complies with the requirements </p>

Finding R3	
<p>Classification</p>	<p> <input checked="" type="checkbox"/> CAR <input type="checkbox"/> FAR <input type="checkbox"/> CL <input type="checkbox"/> None </p>
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>The following supporting documents are pending:</p> <ul style="list-style-type: none"> • Evidences to support monitoring of SD indicator Water Quality • Agreement between TEIAŞ and Alize for immediate action in case of significant differences between main / spare meter readings • Contract agreement between Enercon and Alize Enerji Elektrik • Wiring diagram • EG data published for the month of February 2010 • Invoice for electricity supply for the month of February 2010
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>All the documents needed are submitted to the DOE subsequent to the site visit.</p>
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The verification team has checked all the documents submitted and found that they were complete and sufficient.</p>



Finding R3	
Conclusion	<input type="checkbox"/> To be checked during next periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate action was not taken <input type="checkbox"/> The project complies with the requirements

Finding P1				
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> FAR	<input type="checkbox"/> CL	<input type="checkbox"/> None
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Implementation of training procedures as described in the letter by Mr. Sarper Basak (operation manager), detailing the training procedures of Demirer's wind farms shall be verified during next periodic verification.			
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	The letter of the operation manager gave a description of the actual training system and requirements in March 2010. An update of all training contents and frequencies will be available for the DOE during next verification. Note that the management of training procedures is decentralized: a department of Enercon will provide technical trainings. And the safety (rescue) trainings related with the turbines are also coordinated by Enercon Servis. Furthermore, Deniz KÜLTÜR (advisor of Demirer) provides high voltage trainings for the High voltage operator and these trainings coordinated by Sarper BASAK.			
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The training plan and the implementation of the trainings should be checked during next verification to support the serious approach of PP.			
Conclusion	<input checked="" type="checkbox"/> To be checked during next periodic verification <input type="checkbox"/> Appropriate action was taken <input type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate action was not taken <input type="checkbox"/> The project complies with the requirements			

Finding P2				
Classification	<input type="checkbox"/> CAR	<input type="checkbox"/> FAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> None
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The electricity generation values and meter number in section D.2.2 in the MR partially differ from the /MRR/. PP may clarify the discrepancy using suitable evidences.			



Finding P2	
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	Improvements in the ER-calculation sheet have been carried out and the same is going to be done in the revised MR. Supporting documents have been provided to the verification team subsequent to the on-site visit.
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	The PP rectified the electricity generation figures in the Monitoring Report (vers. 1.3, 20 th April, 2010). These figures were checked for validity with the meter reading reports and meter readings taken on-site. Thus the increase of the electricity generation figures in the MR subsequent to CL P2 are correct and conservative as justified with the above mentioned evidences.
<p>Conclusion</p>	<input type="checkbox"/> To be checked during next periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate action was not taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding P3	
<p>Classification</p>	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> FAR <input type="checkbox"/> CL <input type="checkbox"/> None
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	Since monitoring of electricity generation is going to be simplified according to TEİAŞ schedule in 2010 utilising GPRS technology, the monitoring measures by Alize Enerji Elektrik / UEDAŞ should ensure that adequate monthly meter reading protocols are established for verifying the respective data.
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	The project participant is aware of it and will request UEDAŞ to continue to issue monthly protocols signed by both parties.
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	The use of GPRS technology and monitoring measures developed by Alize Enerji Elektrik/UEDAS will be checked during the next verification
<p>Conclusion</p>	<input checked="" type="checkbox"/> To be checked during next periodic verification <input type="checkbox"/> Appropriate action was taken <input type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate action was not taken <input type="checkbox"/> The project complies with the requirements

Finding P4	
<p>Classification</p>	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> FAR <input type="checkbox"/> CL <input type="checkbox"/> None



Finding P4	
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>Diesel consumption as stated in section D.2.1 does not match with data obtained via /DGOH/, /DPR/, /DLB/.</p>
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The volume of diesel from the invoices and the associated CO₂ emissions have been corrected in section D.2.1 of the MR.</p>
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>Corrections done in the MR have been found to be reasonable</p>
<p>Conclusion</p>	<p> <input type="checkbox"/> To be checked during next periodic verification <input type="checkbox"/> Appropriate action was taken <input checked="" type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate action was not taken <input checked="" type="checkbox"/> The project complies with the requirements </p>

Finding P5	
<p>Classification</p>	<p> <input type="checkbox"/> CAR <input checked="" type="checkbox"/> FAR <input type="checkbox"/> CL <input type="checkbox"/> None </p>
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>The PP may clarify whether complete access to all meter settings of the previous month could be granted during the next verification to enable additional cross checks of meter readings for the respective month.</p>
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The PP has already talked with UEDAŞ, but is not possible to do that because the access to the meter is the exclusive access of UEDAS.</p>
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The result of the current verification is that sufficient evidence has been provided to prove the validity of electricity generation figures as per the MR. Cross checks between meter reading reports, invoices and published electricity generation figures are entirely positive and enable the verification team to close FAR P5.</p>
<p>Conclusion</p>	<p> <input type="checkbox"/> To be checked during next periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate action was not taken <input checked="" type="checkbox"/> The project complies with the requirements </p>



FAR 1	
Classification	<input type="checkbox"/> CAR <input checked="" type="checkbox"/> FAR <input type="checkbox"/> CL <input type="checkbox"/> None
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>“Emissions from auxiliary power unit are not taken into account as project emissions. Emissions from auxiliary power unit are not included in PDD and Monitoring plan as proposed. PP shall ensure that auxiliary emissions will be monitored and reported.</p> <p>This shall be verified in the initial verification.</p> <p>Comment: the expected volume of approximately 5t CO₂ is negligible compared to the expected annual emission reduction of 46,501 t CO₂, but should nevertheless be reported as project emissions.”</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>PDD has been corrected accordingly and the respective diesel consumption has been monitored and reported in section D.2.1 of the monitoring report.</p>
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>Diesel consumption monitored and reported during the first monitoring period. The Project emissions stated in the MR, i.e. 1.97 tCO₂ have been found negligible since it is less than 1% of the emission reductions generated during the 1st monitoring period.</p>
Conclusion	<input type="checkbox"/> To be checked during next periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate action was not taken <input checked="" type="checkbox"/> The project complies with the requirements

Finding Q1	
Classification	<input checked="" type="checkbox"/> CAR <input type="checkbox"/> FAR <input type="checkbox"/> CL <input type="checkbox"/> None
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Monitoring report lacks of sufficient explanation concerning roles and responsibilities for monitoring procedures as well as data storage. Responsibilities allocated to Ms. Çağla Balcı Eriş and Mr. Sarper Basak may be clarified.</p>
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i>	<p>Mr. Sarper BASAK is an Operational Manager. All wind farm responsible engineers report to him. He is also responsible of the organization of trainings and carries out data handling.</p> <p>Mrs. Çağla BALCI ERIS is a Carbon Development Manager. She is responsible for data handling and invoices of the wind farms; originating and marketing the carbon credits (including all steps of the project cycle).</p> <p>The wind farm responsible engineers sent to Mr. Sarper BASAK and Mrs. Çağla BALCI ERIS the electricity generation report every week and meter reading protocol every month.</p> <p>The section C.1.1 of the monitoring report has been updated accordingly.</p>



Finding Q1	
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>The MR has been improved according to the finding. The explanation given by the PP is satisfactory and tallies with the interviews taken on site with the PP and responsible staff.</p>
<p>Conclusion</p>	<p> <input type="checkbox"/> To be checked during next periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate action was not taken <input checked="" type="checkbox"/> The project complies with the requirements </p>

Finding Q2				
<p>Classification</p>	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> FAR	<input type="checkbox"/> CL	<input type="checkbox"/> None
<p>Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i></p>	<p>Clarification on calibration frequency is requested, as it's not clear whether or not UEDAŞ determines the same calibration requirements as TEIAŞ does. During site visit PP informed that /MH/ may be adjusted accordingly.</p>			
<p>Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details.</i></p>	<p>The calibration requirements from UEDAŞ is every 10 years, as document is the letter from UEDAŞ to Alize dated from 8th of April 2010.</p>			
<p>DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-2. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i></p>	<p>PP has shown the supportive document by UEDAS saying that their responsibility is to stamp (calibrate) the meters every ten years as from the date of manufacturing and first calibration date is in accordance with the Measurement and Calibration Law issued by the Ministry of Industry and Trade. (Pls. See the letter by UEDAS, 8th April, 2010) The DOE has checked the related law (Law no: 3516) and approved that the information is correct.</p>			
<p>Conclusion</p>	<p> <input type="checkbox"/> To be checked during next periodic verification <input checked="" type="checkbox"/> Appropriate action was taken <input type="checkbox"/> MR was corrected correspondingly <input type="checkbox"/> Appropriate action was not taken <input checked="" type="checkbox"/> The project complies with the requirements </p>			

5. SUMMARY OF VERIFICATION ASSESSMENTS

The following paragraphs include the summary of the final verification assessments after all CARs and CLs are closed out. For details of the assessments pl. refer to the discussion of the verification findings in chapter 4 and the verification protocol (Annex 1).

5.1. Implementation of the project

The project involves the operation of 23 wind turbines (E44 of 900 kW) and of 20.7MW. No deviations or revisions were intended w.r.t the registered PDD or monitoring plan. However due to the difficulties to obtain operation licence in the host country, the wind farm had been operated first at 18.9 MW with 21 turbines. The licence for the last two turbines was completed 21st January 2010 and the respective WTGs started operation at that date. The related documents with reference to the licences were made available to the verifying DOE. During the site visit on 13th of March 2010, the verification team could verify the operation of totally 23 WTGs of model E44 (900kW) with an installed capacity of 20.7 MW. Concluding the above summary, TÜV NORD confirms that the changes in the design of the project activity do not affect the project activity's baseline situation according to PDD, section A.4.4, additionality demonstration as per PDD, section B.3 or sustainability aspects presented in PDD, Table 1 (SD Matrix).

5.2. Project history

Apart from the details provided in section 5.1 no major events with potential impact on the baseline occurred and therefore no special further action is required in this verification.

5.3. Special events

No special events could be identified in the verification process since the project activity became registered.

5.4. Compliance with the monitoring plan and GS monitoring matrix

The elaboration in the MR, the information given in the monitoring manual and the information obtained on site are comprehensive and in sufficient detail in order to conclude that the monitoring procedures are implemented in accordance with the monitoring plan and methodological requirements. The project implementation

complies with Monitoring Report (version:1.3), with the GS matrix and all relevant SD parameters were appropriately monitored.

5.5. Compliance with the monitoring methodology

The project activity complies with all methodological requirements w.r.t. monitoring. Relevant monitoring parameters (EG_y Annual electricity supplied by the project to the grid) is monitored continuously and backed up by supporting documents. No lack of data or errors affecting the ER calculation could be identified in the course of verification.

5.6. Monitoring parameters

Multiple CARs / CLs / FARs were raised during verification and the same were closed successfully. FAR P1, addressing the lack of information in the implementation of training procedures, FAR P3 addressing GPRS technology by TEIAS to monitor electricity generation, CL P5 addressing additional cross check methods of meter readings will be checked during the next periodic verification. Other findings like CL P2, CAR P4 are closed successfully by the corrections done in the MR (ver 1.3)

5.7. Monitoring reports

The Gold Standard MR^{MR-2/} includes relevant information to the necessary extent of detail w.r.t. the monitoring parameters, quality assurance and control measures as well as calculation of ER reductions within the monitoring period. Additionally, confidential information w.r.t. to details of the project design change was submitted to the DOE for the purpose of verification only, however not for upload into the public section of the GS registry. Cross checks of MR, supporting documents and information obtained on site were performed in this first periodic verification and it is confirmed that the respective elaboration in MR is in compliance with relevant GS and verification requirements. Nevertheless, CAR R1 and CAR R2 and CAR R3 were raised and successfully closed in the course of final verification with the corrections in the MR and the supportive documents were submitted to the DOE.

5.8. Deviations in GHG emission reduction

The GHG emission reduction based on the net electricity generation multiplied by the emission factor. The emission factor is defined as 0.644 tCO₂/MWh. The electricity consumption from the grid as well the electricity supplied to the grid between July

10th 2009 and February 28th 2010 is determined on the basis of meter reading protocols signed by the site manager of Alize Enerji Elektrik Üretim AS and Uludağ Electricity Transmission Company (UEDAS). These values were cross checked by invoices from Alize Enerji Elektrik Üretim AS and meter reading / invoice protocols published on the TEIAS website. The meter reading protocols, the invoices from Alize Enerji and meter readings / invoice protocols from TEIAS web-side were checked by the verification team and deemed correct.

5.9. Contribution to sustainable development

The project contributes to the sustainable development of a rural area in Turkey (Balıkesir Province) mainly by the means of employment or job creation, respectively, technology and knowledge transfer from Germany and environmental sound electricity generation. The project activity's implementation was assessed in terms of its contribution to SD taking into account the validated SD Matrix and SD indicator monitoring plan. In the course of verification it was observed that the project is in compliance with estimations set in the SD Matrix and that monitoring of relevant SD parameters was performed to a sufficient extent in order to conclude that the statements w.r.t. the project's contribution to SD are correct and adequately evidenced by the PP. Further the verification team would like to clarify how knowledge transfer, being an integral part of the project's contribution to sustainable development has been ensured by the PPs. The PDD mentions the involvement of TEIAS representatives to ensure the knowledge transfer from North to South and urban to rural areas by the provision of training measures to the employees. Basically, a major part of training measures by TEIAS comprise the transfer of knowledge on the operation of the high voltage switchgear stations as per the respective standards. Due to the fact that the Keltepe project site is not equipped with a connection to the high voltage line of 154 KV there are also no training measures for electricity export on the high voltage provided by TEIAS. This contradiction between the actual scenario on site and the statement in the PDD that a switchgear station is operated is caused the utilization of PDD template of another project by Demirer. Since the PDD, however clearly states that the WTGs are connected to the medium line there is no doubt in the medium voltage level. Further TÜV NORD has inspected the Keltepe site concerning the technical specifications of the WTGs and the grid connection. The verification comprised inter alia checks of the generation license^{/GLS/} and the grid connection contract, grid connection protocol / Protocol of acceptance of transmission lines and sub-station^{/APTLS/} as well as related documents specified in section 7. According to these aspects training measures in this 1st monitoring period were limited to the orientation and safety training and were carried out by ENERCON. Therefore TÜV NORD confirms on the basis of interviews with employees and by reviewing the corresponding training certificates that knowledge transfer from North to South and Urban to Rural areas has been achieved in this first monitoring period due to the operation of the Keltepe Wind Farm Project.

5.10. Quality Management

Quality Management procedures for measurements, collection and compilation of data, data storage and archiving, calibration, maintenance and training of personnel in the framework of this GS VER project activity have been defined. The procedures defined can be assessed as appropriate for the purpose. No significant deviations have been observed during the verification. Nevertheless, CAR Q1 addressing that the MR was lacking sufficient explanation concerning roles and responsibilities allocated to the managers involved in monitoring and CAR Q2 addressing calibration frequency were opened. Both of the CAR s' were closed by the detailed explanations of the PP.

5.11. Overall Aspects of the Verification

All necessary and requested documentation was provided by the project participants so that a complete verification of all relevant matters could be carried out.

Access was granted to all installations of the plant which are relevant for the project performance and the monitoring activities.

No issues have been identified indicating that the implementation of the project activity and the steps to claim emission reductions are not compliant with the GS criteria.

5.12. Hints for next periodic Verification

Changes in reporting of meter readings may occur in 2010 by implementing GPRS technology. In order to perform next verification appropriately the PP is requested to ensure that adequate monthly meter reading protocols are established. Thus, FAR P3 was opened.

6. VERIFICATION OPINION

The scope of this verification covers the determination of voluntary greenhouse gas emission reductions generated by the above mentioned project as well as its contribution to sustainable development of Turkey. The verification is based on the registered GS PDD, Monitoring Report and supporting documents made available to the verifiers by the project proponent.

As a result of the verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the project design document. The monitoring system is in place and functional. The installed equipment essential for generating emission reductions runs reliable and is calibrated appropriately.
- the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.
- sustainability indicators being subject to monitoring are appropriately measured, documented and in line with GS criteria.

Monitoring period: From 2009-07-10 to 2010-02-28

Verified emission in the above crediting period:

Emission reductions:	CO ₂ [tCO ₂]	CH ₄ [t CH ₄]	N ₂ O [t N ₂ O]	HFCs [t HFC]	PFCs [t PFC]	SF ₆ [t SF ₆]	Sum [tCO ₂ e]
2009	22906	-	-	-	-	-	22906
2010	7431	-	-	-	-	-	7431
TOTAL rounded down:							30337

Essen, 2010-09-30



Rainer Winter
TÜV NORD JI/CDM Certification
Program
Verification Team Leader

Essen, 2010-09-30



Eric Krupp
TÜV NORD JI/CDM Certification
Program
Final Approval

7. REFERENCES

Table 7-1: Documents provided by the project participant(s)

Reference	Document
/APTLS/	Protocol of acceptance of transmission lines and sub-station
/AL/	Attendance List of training performed
/CC-CE/	Certificates of Conformity with applied standards taking into account the date of WTGs commissioning
/CLWC/	Confirmation Letter Wind Class from Enercon as of 2010-03-17
/CR/	Certificates of employees' residence
/DMR/	Determination of Meter Reset
/EDCA/	Contract agreement between Enercon and Alize Enerji Elektrik Üretim
/GLS/	Generation License Keltepe Wind Power Plant
/IAP-1/	First Index Assessment Protocol
/IDE/	Invoices Alize Enerji Elektrik Üretim (07/2009 – 02/2010)
/IMRP/	Initial Meter Reading Protocol
/LE/	List of employees
/MCC/	Meter Conformity Certificates for Actaris meters with accuracy requirements
/MCL/	Meter Calibration Letter
/MCLMD/	Maintenance Checklist Measuring Devices TEIAS
/MDP/	Meter Determination Protocol

Reference	Document
/MIS/	Meter Inspection Sheet
/MM/	Monitoring Manual Keltepe wind farm
/MP/	Maintenance Plan
/MR-1/	Monitoring report “Keltepe Wind Farm Project, Turkey”, version 1.1 as of 05.03.2010
/MR-2/	Monitoring report “Keltepe Wind Farm, Turkey”, version: 1.3 as of 20.04.2010
/MRR/	Meter Reading Reports signed by TEIAS and Dogal Enerji Elektrik
/MSP/	Meter Seal Protocol
/OC/	Organization Chart of the wind farm
/PHS/	Summary of Project History
/QC/	Qualification Certificates of Keltepe staff
/SSK/	Entry in social security organization registry
/ST/	Statement of Completion by TÜV SÜD for erection of WTGs
/STT/	Summary of training topics
/TC/	Certificates of Training of Keltepe staff
/TCMC/	TEIAS checklist for meter calibration
/TDS-1/	Technical Data Sheet WTG E44 900 kW
/T-PEGD/	EG data published on TEIAS homepage
/WD/	Wiring diagram of Wind Farm
/WTG-MR/	Wind Turbine Generator meter readings
/XLS/	Emission Reduction Calculation in MS-excel format

Table 7-2: Background investigation and assessment documents

Reference	Document
/ACM0002/	ACM 0002 version 7 – Consolidated baseline methodology for grid-connected electricity generation from renewable sources
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/GS/	Gold Standard version 1
/IPCC-RM/	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book
/KP/	Kyoto Protocol (1997)
/MA/	Decision 17/CP. 7 (Marrakesh – Accords & Annex to decision 17/CP.7)
/PDD /	Project Design Document for CDM project: “ <i>Keltepe Wind Farm Project - Turkey</i> , version 02 as of 2009-08-04
/SCADA/	Supervisory Control and Data Acquisition system for WTGs
/VAL/	Validation report for Gold Standard registration “Validation Report Keltepe Wind Farm Project Turkey” as of 2008-11-14 based on /PDD/
/VVM/	UNFCCC Validation and Verification Manual

Table 7-3: Websites used

Reference	Link	Organisation
/teias/	http://www.teias.gov.tr/	Turkish Electricity Transmission Company
/gs/	http://www.cdmgoldstandard.org/index.php	Gold Standard
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: Interviewed Persons

Reference		Name	Organisation / Function
/IM01/	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Çagla Balci Eris	Demirer Enerji Üretim, Carbon Development Manager
/IM02/	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Edip Erdoğan	Alize Enerji Elektrik , Site Manager
/IM02/	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Önder Balaban	Enercon Service Turkey, Keltepe Service Technician
/IM02/	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Bülent Altıntaş	Enercon Service Turkey, Keltepe Service Technician
/IM02/	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Yıldırım Bayezit	Alize Enerji Elektrik
/IM02/	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Aytekin Bayezit	Alize Enerji Elektrik
/IM02/	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Şaban Altın	Alize Enerji Elektrik
/IM02/	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Rıfki Ay	Alize Enerji Elektrik

ANNEX

Verification Protocol



ANNEX: VERIFICATION PROTOCOL

Table A-1: (Project specific) Periodic Verification Checklist

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
1. Project history				
<p>Open issues from GS validation</p> <p><i>Check (esp. in case of 1st periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR)?</i></p>	<p>/MR-1/ /IM01/ /PDD / /VAL/ /CC-CE/</p>	<p>During validation FAR 1 was raised and sufficiently addressed during the monitoring period. The respective project documentation of this activity was checked.</p> <p>Apart from that CL H1 was raised in order to understand whether there was any change in capacity. The explanations by the PP had clarified that there was no change in capacity and it was 20.7 MW. CL H1 was closed successfully with the explanations of the PP and the supportive documents (inter alia the temporary acceptance protocol for the last two turbines)</p>	CL H1	OK
<p>Open issues from previous verification</p> <p><i>Check in case of further periodic verifications whether there are any open issues indicated in previous verification (FAR)?</i></p>	<p>/MR-1/ /IM01/ /PDD / /VAL/ /gs/</p>	<p>NA, this is the first verification</p>	OK	

¹ Provide means and results of assessment



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<p>Requests for Deviations / Revisions of MP</p> <p><i>Check if there have been any requests for deviations from the registered CDM / GS monitoring plan or requests for revisions of the CDM / GS monitoring plan. If any, make sure that they are considered during verification?</i></p>	<p>/IM01/ /MR-1/ /PDD/</p>	<p>No RfRevMP / RfDevMP was submitted to GS. The monitoring procedures have been verified and the same are in line with the registered PDD. Thus, there is no necessity to revise or deviate from the MP.</p>	OK	OK
<p>Initial project implementation</p> <p><i>In case of first GS verification: Assess whether the project has been implemented and operated as per the registered PDD and are all physical features of the project in place?</i></p> <p><i>In case of further periodic verifications: Go to next chapter.</i></p>	<p>/MR-1/ /IM01/ /PDD/</p>	<p>Physical features such as main and back up meters, capacity of turbines, transmission lines and substation have been checked during the on site visit under consideration of /PDD /, /MR-1/ and supporting documents. TÜV NORD could not identify alterations from the registered PDD in terms of project's physical components.</p>	OK	OK
<p>2. Update on Changes and Incidents (during the Monitoring Period)</p>				
<p>Technical equipment</p> <p><i>Check if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period.</i></p> <p><i>Check whether any changes occurred that may have impact on the GS qualification of the project, in particular with reference to any potential changes in key parameters leading to an overall impact on sustainable development of the project.</i></p>	<p>/IM01/ - /IM02/ /MR-1/ /LE/</p>	<p>No change of relevant technical equipment of the project activity has not been observed during the site visit.</p> <p>No changes in the project activity's design concerning GS qualification have been observed in the course of verification.</p>	OK OK	OK OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<p><i>Consider e.g. interviews with operational personnel, QMS records, maintenance records, instrument specifications.</i></p> <p><i>In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring report, the emission reduction calculation and/or the scoring of the sustainability indicators.</i></p>				
<p>Operation modes</p> <p><i>Check if relevant operation modes of the project activity have been exchanged or modified during the monitoring period.</i></p> <p><i>Check whether any changes occurred that may have impact on the GS qualification of the project, in particular with reference to any potential changes in key parameters leading to an overall impact on sustainable development of the project.</i></p> <p><i>Consider e.g. interviews with operational personnel, operation log sheets, data management system records.</i></p> <p><i>In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring report, the emission reduction calculation and/or the scoring of the sustainability indicators.</i></p>	<p>/IM01/ - /IM02/ /LE/ /OC/</p>	<p>Changes in operation modes of wind farm and the staff could not be identified during the monitoring period.</p>	<p>OK</p>	<p>OK</p>
<p>Incidents</p> <p><i>Identify if there have been any significant incidents, deviant operation modes and / or downtimes of the</i></p>	<p>/MR-1/ /IM01/ -</p>	<p>Regardless of deviation from the project design capacity no significant incidents occurred since commissioning. This has been checked by investigation of supporting documents and</p>	<p>OK</p>	<p>OK</p>



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<p><i>equipment?</i></p> <p><i>Consider e.g. interviews with operational personnel, operational log sheets, analysis of performance data.</i></p>	/IM02/	interviews with responsible staff.		
<p>Personnel</p> <p><i>Find out, if relevant personnel w.r.t. monitoring has been exchanged?</i></p> <p><i>In case of changes, assure that the implemented monitoring procedures have not been affected.</i></p>	/IM01/ - /IM02/ /LE/ /OC/ /MR/	No exchanges were identified during the site visit.	OK	OK
<p>Legislation</p> <p>Find out whether relevant legislation with effect on the project activity in the host country has been changed.</p>	/IM01/	No changes in legislation which affect the project activity could be identified.	OK	
3. Monitoring Report – General				
<p>Monitoring period</p> <p><i>Check if the monitoring period is in line with a) the crediting period and/or b) previous monitoring periods?</i></p>	/MR-1/ /PDD/ /VAL/ /MRR/ /IDE/ /CC-CE/ /gs/	The project activity follows the regular project cycle and was successfully registered in September 2009. However, CAR R1, CAR R2 and CAR R3 were raised in order to receive sufficient information about the project and to correct some editorial mistakes in the MR. All CAR s' were closed successfully with supportive documents submitted to the DOE and the corrections done in the MR	CAR R1 CAR R2 CAR R3	OK
<p>References</p> <p><i>Check if the carbon monitoring report and sustainability monitoring report provides the correct</i></p>	/IM01/ - /IM02/ /MR-01/	References of supporting documents in the monitoring report have been checked and found OK.	OK	



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>references.</i>				
<p>Completeness</p> <p><i>Assess if the carbon monitoring report and sustainability monitoring report are complete, i.e. have all relevant issues been addressed?</i></p>	/MR-1/	<p>The Gold Standard MR includes relevant information to the necessary extent of detail w.r.t. the monitoring parameters, quality assurance and control measures as well as calculation of ER reductions within the monitoring period. Additionally, confidential information w.r.t. to details of the changes in the project design capacity was submitted to the DOE for the purpose of verification only, however not for upload into the public section of the GS registry. Cross checks of MR, supporting documents and information obtained on site were performed in this first periodic verification and it is confirmed that the respective elaboration in the MR is in compliance with relevant GS and verification requirements. Nevertheless, CAR R1 and CAR R2 and CAR R3 were raised and successfully closed in the course of final verification with the corrections in the MR and the supportive documents submitted to the DOE.</p>	CAR R1	OK
	/IM01/ - /IM02/		CAR R2	OK
	/CC-CE/ /AL/ /LE/ /OC/ /TC/		CAR R3	OK
<p>Transparency</p> <p><i>Assess if the carbon monitoring report and sustainability monitoring report are transparent, i.e. clear and unequivocal in all respect?</i></p>	/MR-1/	<p>Lack of transparency had been identified therefore CAR R1, CAR R2, CAR R3 were raised.</p> <p>All CARs could be closed during final verification. Please refer to section 4 for details.</p>	CAR R1	OK
	/IM01/ - /IM02/		CAR R2	
	/CC-CE/ /AL/ /LE/ /OC/ /TC/		CAR R3	

Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<p>Misstatements on general issues</p> <p><i>Assess whether the carbon monitoring report and sustainability monitoring report are free of material misstatements regarding issues other than the monitoring parameters.</i></p> <p><i>Discuss the monitoring parameters in detail in chapter "Monitoring Parameters".</i></p>	/MR-1/ /IM01/ - /IM02/	No misstatements could be identified. Nevertheless, contradictions in the monitoring report were identified by cross checks with supporting documents and interviews with the PP, responsible staff or local stakeholders. Please refer to checklist item 3 " Monitoring period ". Thus, CAR R1 and CAR R2 and CAR R3 were raised in order to receive sufficient information about the project and correct some editorial mistakes in the MR. All CAR s' were closed successfully with supportive documents submitted to the DOE and the corrections done in the MR	CAR R1 CAR R2 CAR R3	OK
<p>Deviations from the validated monitoring plan and GS monitoring matrix</p> <p><i>Assess whether the carbon monitoring report and sustainability monitoring report are in line with the validated monitoring plan and the GS monitoring matrix?</i></p>	/MR-1/ /PDD/ /VAL/	No deviations are observed. Net electricity supply as well as sustainability indicators like quality and quantity of employment are monitored in accordance with the monitoring plan.	OK	OK
<p>Deviations from the approved methodology</p> <p><i>Assess whether the MR is in line with the applied monitoring methodology?</i></p>	/MR/ /ACM000 2/	The monitoring report is in line with the LSC methodology ACM0002. Please refer to checklist item above.	OK	OK
<p>4. Monitoring Parameters</p> <p><i>(List all parameters of the PDD chapter B.7.1 and the GS monitoring matrix; pl. copy the 6 lines below for each parameter)</i></p>				
GHG emission parameters				
4.1. EG (Electricity Generation)				
Measurement / Determination method	/IM01/	The monitoring parameter, net electricity supplied to the grid is	OK	OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<p><i>Describe how the monitoring parameter was measured / determined.</i></p> <p><i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.</i></p>	<p>/MR-1/ /MCC/ /MTR-1/ /MTR-2/ /WD/ /IDE/</p>	<p>measured by electricity meters with an accuracy of 0.2s. Both meters are located at the high voltage side of the transformer station (154 kV) and electricity losses due to the step up process are already corrected.</p> <p>Exchanges of relevant equipment, failures or downtimes of measurement devices could not be identified in the course of verification.</p> <p>The measurement method observed on site is in accordance with the registered PDD and deemed valid.</p> <p>TÜV NORD would like to point out that the basic data for ER calculation, i.e. electricity supply to the grid is correctly measured and applied in the ER-calculation. However, FAR P3 was opened in order to ensure the monthly meter reading protocols with the new GPRS technology by UEDAS.</p>	FAR P3	OK
<p>Correctness</p> <p><i>Determine whether the value given in the carbon monitoring report is correct.</i></p> <p><i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i></p>	<p>/XLS/ /MR-1/ /T-PEGD/ /IDE/ /MRR/ /WTG-MR/ /IM01/</p>	<p>The electricity consumption from the grid as well the electricity supplied to the grid between 07/2009 and 02/2010 is determined on the basis of meter reading protocols signed by the site manager of Alize Enerji Elektrik Üretim and the utility (UEDAS). The meter reading protocols, the invoices from Alize Enerji and meter reading/ invoice protocols from TEIAS webside were checked by the verification team and deemed to be OK.</p>	OK	OK
<p>QA/QC Procedure</p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been</i></p>	<p>/WTG-MR/ /T-PEGD/</p>	<p>QA/QC procedures encompass the back up meter for measurement of electricity, calibration of meters, Enercon's SCADA system, TEIAS' monthly electricity generation records and training measures to staff.</p>		



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>carried out by competent personnel.</i>	/MR/ /MDP/ /MCC/ /IDE/ /MCL/ /MSP/ /MIS/ /MP/	<p>The main and back up meter is measuring with an accuracy of 0.2s. Observed deviations between both meters are within limits set by TEIAS and acceptable.</p> <p>Meter tests were executed before its installation dates mentioned in B1.1 of the MR. As per the requirements of UEDAS^{/MCL/} calibration of meters is required once in a 10 years period. Future calibration of main and back up meter will be performed by UEDAS personnel only. No inconsistent electricity values have been identified. The meter data was checked by the verification team and deemed OK. However, clear evidence for the necessary calibration intervals was pending and requested by CAR Q2.</p> <p>According to /MDP/ calibration of meters has been carried out by competent personnel.</p> <p>CL P5 was opened in order to achieve additional cross checks of meter readings but UEDAS does not accept to do any change with the meter reading techniques. PP should propose new methods of cross checks which may also convince the DOE during the next verification.</p> <p>As set out above, the DOE is convinced that all requirements w.r.t. QA/QC are met to a sufficient extent. CARQ2 was closed since the related law (No:3516) was submitted to the DOE .</p>	CL P5	OK
<p>Accuracy</p> <p><i>In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.</i></p>	/MR-1/ /XLS/ /IM01/ - /IM02/	<p>The electricity consumption from the grid as well the electricity supplied to the grid between 07/2009 and 02/ 2010 were based on meter reading protocols signed by the site manager of Alize Enerji and the Turkish Electricity Transmission Company (TEIAS). The meter reading protocols, the invoices from Alize Enerji and meter reading/ invoice protocols from TEIAS webside were checked by the verification team and deemed OK.</p>	OK	OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
		<p>The main and back up meter were measured with an accuracy of 0.2s. Observed deviations between both meters were within limits set by TEIAS and acceptable.</p> <p>However, it was noted by the verification team that the emission from the auxiliary power unit was not considered in the PDD and in the MR. Diesel consumption was calculated and reported in section D2.1 of the MR (1.3) Since it's much less than the emission reduction (less than 1% of the annual emission reduction) it was found to be negligible and CAR P4 and FAR 1 were closed successfully.</p>	CAR P4 FAR1	
<p>Verification</p> <p><i>Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.</i></p>	<p>/MR-1/ /XLS/ /T- PEGD/ /IDE/ /MRR/</p>	<p>Electricity generation data was cross checked by meter readings on site, TEIAS determined and published electricity generation volumes and invoices raised to TEIAS. Based on evidences provided by the PPs the verification team deem electricity generation values to be correct.</p>	OK	OK
Sustainability indicators				
4.2. SDI.10 Quantity of employment and SDI.6 Quality of employment				
<p>Measurement / Determination method</p> <p><i>Describe how the monitoring parameter was measured / determined.</i></p> <p><i>Check if relevant equipment has been exchanged</i></p>	<p>/IM01/ /IM02/ /MR-1/ /SSK/</p>	<p>Providing employment to the locals is the determination of the monitoring parameter. Determination method for the number of employees (SDI.10) is based on keeping employment contracts and announcement documentation of employees to SSK what is the Turkish social Insurance Institution.</p>	OK	OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<p><i>and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i></p> <p><i>Assess whether the measurement / determination method is in line with the registered GS monitoring plan.</i></p>	<p>/LE/ /QC/ /OC/ /TC/ /CR/</p>	<p><i>Quality of employment</i>, representing the SDI.6 is determined inter alia by training measures to staff. During verification it was identified that the MR lacks adequate explanation of training procedures w.r.t. identification of training demand. Following the identified lack of information FAR P1 was raised.</p> <p>Please refer to DOE's assessment in the respective FAR. Pending documents were submitted and deemed in compliance with validated PDD. However, FAR P1 will be checked during the next periodic verification.</p>	FAR P1	
<p>Correctness</p> <p><i>Determine whether the value or information given in the sustainability monitoring report is correct.</i></p> <p><i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i></p>	<p>/MR/ /SSK/ /LE/ /QC/ /OC/ /TC/</p>	<p>Please refer to checklist item above. FAR P1 was raised due to lack of information.</p>	FAR P1	OK
<p>QA/QC Procedure</p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel (if applicable).</i></p>	<p>/MR-1/ /SSK/ /LE/ /QC/ /OC/ /TC/</p>	<p>Quality of employment is ensured by training measures from Enercon. Further assessing the competence of the people doing the calibration and maintenance of the monitoring equipments is not possible. FAR P1 related with the subject will be checked during the next verification.</p>	FAR P1	OK
<p>Accuracy</p> <p><i>In case of measured (or estimated) values, check</i></p>	<p>/MR-1/ /SSK/</p>	<p>Please refer to checklist item above.</p>	OK	OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>whether significant inaccuracies occur.</i>	/LE/ /QC/ /OC/ /TC/			
Verification <i>Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.</i>	/MR-1/ /SSK/ /LE/ /QC/ /OC/ /TC/	Please refer to checklist item "QA/QC Procedure" above. Verification of SD parameters has been performed by cross checks of supporting documents. Cross checks between PDD, MR and organisational sheet, list of employees, proof of registration in SSK and interviews with staff were carried out. Please also refer to checklist item above.	OK	OK
4.3. Soil condition				
Measurement / Determination method <i>Describe how the monitoring parameter was measured / determined.</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i> <i>Assess whether the measurement / determination method is in line with the registered GS monitoring plan.</i>	/IM01/ /IM02/ /MR/ /PDD/	The monitoring of the soil conditions is in fact the disposal of waste and keeping the site clean from construction and other waste.	OK	OK
Correctness <i>Determine whether the value or information given in the sustainability monitoring report is correct.</i>	/IM01/ /IM02/	Since no values / figures need to be determined this is not applicable.	OK	OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i>	/MR/ /PDD/			
QA/QC Procedure <i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel (if applicable).</i>	/IM01/ /IM02/ /MR/ /PDD/	NA	OK	OK
Accuracy <i>In case of measured (or estimated) values, check whether significant inaccuracies occur.</i>	/IM01/ /IM02/ /MR/ /PDD/	NA	OK	OK
Verification <i>Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.</i>	/IM01/ /IM02/ /MR/ /PDD/	The verification team during the site visit visually inspected the site and the surrounding and did not detect waste in the environment. The building is properly maintained and equipped with waste / waste water disposal facilities.	OK	OK
4.4. Water Quality				
Measurement / Determination method <i>Describe how the monitoring parameter was measured / determined.</i> <i>Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.</i>	/IM01/ /IM02/ /MR/ /PDD/	The monitoring of the water quality comprises record keeping of disposal bills for the respective service by a hired company. Due to the fact that the number of employees on site is only 7 and the current monitoring period comprises the period of approximately 7 ½ months there was no need for the PP to empty the wastewater tank.	OK	OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>Assess whether the measurement / determination method is in line with the registered GS monitoring plan.</i>				
<p>Correctness</p> <p><i>Determine whether the value or information given in the sustainability monitoring report is correct.</i></p> <p><i>In case of mistakes pl. provide details and descriptions of the CARs raised.</i></p>	<p>/IM01/ /IM02/ /MR/ /PDD/</p>	Since no values / figures need to be determined this is not applicable.	OK	OK
<p>QA/QC Procedure</p> <p><i>Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel (if applicable).</i></p>	<p>/IM01/ /IM02/ /MR/ /PDD/</p>	NA	OK	OK
<p>Accuracy</p> <p><i>In case of measured (or estimated) values, check whether significant inaccuracies occur.</i></p>	<p>/IM01/ /IM02/ /MR/ /PDD/</p>	NA	OK	OK
<p>Verification</p> <p><i>Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.</i></p>	<p>/IM01/ /IM02/ /MR/ /PDD/</p>	The verification team during the site visit visually inspected the site and the surrounding with special focus on waste water discharges and did not detect any leakage of waste water in the environment. The building is properly maintained and equipped with waste / waste water disposal facilities.	OK	OK
5. ER Calculation				
Traceability	/XLS/	The ER calculation is provided in MS excel format and its values	CL P2	OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>Assess if the calculation is fully traceable. In case of complex calculations an Excel calculation spreadsheet shall be used. All applied formulae must be visible.</i>	/MR-1/ /T- /PEGD/ /MRR/ /WTG-MR/ /IM01/	are in line with both the monitoring report as well as supporting documents. The ER calculation has been reviewed and is deemed traceable and correct as well. However, CL P2 was raised because the electricity generation values and meter number in Section D2.2 in the MR partially differed in the /MRR/. Improvements in the ER calculation sheet and the MR had been done and CL P2 was closed successfully as no inconsistencies further exist.		
Parameter consistency <i>Assess whether all internal and external parameters and data used for calculation are applied consistently in the carbon monitoring report and the calculation spreadsheet?</i> <i>Consider only the correct data exchange between the carbon monitoring report and the calculation spreadsheet (if any). The evaluation of the correctness of the parameter values itself should be discussed in the chapter "Monitoring Parameters".</i>	/XLS/ /MR-1/ /T- /PEGD/ /MRR/ /WTG-MR/ /IM01/	All parameters, i.e. electricity supplied to the grid, electricity consumed from the grid and the CM-EF (as per the registered PDD) has been applied consistently in the MR and /XLS/. The net electricity generation of the project activity within the monitoring period is 47,108.82 MWh and the Carbon Emission Factor (CM) is 0.644 tCO ₂ /MWh.	OK	
Applied formulae <i>Check if the applied formulae are in accordance with the monitoring plan and / or the approved methodology.</i>	/MR-1/ /XLS/ /ACM002 / /PDD-v4/	The applied formulae for calculating the ERs during the first monitoring period are in accordance with the monitoring plan and methodology. Cross checks between PDD, MR and XLS were performed.	OK	
Completeness of calculation <i>Assess whether the provided calculations are complete and reflect all requirements of the</i>	/XLS/ /MR-1/ /T-	The ER calculation is complete and reflects the requirements of the MP in terms of monitoring electricity supply to the grid. All parameter values in ER calculation were cross checked with	OK	OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<p><i>monitoring plan.</i></p> <p><i>Check especially that no standard or old values have been used for calculation where calculations based on up-to-date data is required.</i></p>	<p>PEGD/ /IDE/ /MRR/ /WTG-MR/ /IM01/ /MCC/ /IMRP/ /MDP/ /MSP/</p>	<p>supporting documents and were found OK.</p>		
<p>6. Quality Management; defined organisational structure, responsibilities and competencies Internal QA/QC and document control</p>				
<p>Management System</p> <p><i>Check if the GHG data and sustainability monitoring system is embedded in a (certified) company quality management system, if so; check if all CDM and / or GS monitoring procedures have been fully integrated in the project participant's quality management system. If not check how the GHG management system has been implemented.</i></p>	<p>/MR/ /PDD/ /IM01/ - /IM02/</p>	<p>The GHG data and sustainability monitoring is not embedded in a certified company quality management system. The PP is requested to further elaborate its GHG management system focussing on roles and responsibilities.</p> <p>Data management procedures and monitoring guidelines are explained in detail in /MR-2/ or in the monitoring manual, respectively.</p>	<p>CAR Q1</p>	<p>OK</p>
<p>Roles and Positions</p> <p><i>Check if all roles and positions of each person in the GHG data management and sustainability monitoring process are clearly defined and implemented, from</i></p>	<p>/MR/ /PDD/ /IM01/ -</p>	<p>CAR Q1 was opened because the roles of Operational Manager and Carbon Development Manager were not clearly described in the process of monitoring. CAR Q1 was closed after the explanations of the PP.</p>	<p>CAR Q1</p>	<p>OK</p>



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
<i>raw data generation to submission of the final data.</i> <i>Check further if only duly qualified personnel is involved in the monitoring procedures.</i>	/IM02/			
Trainings <i>Check if initial trainings have been carried out, in case deemed necessary.</i>	/MR/ /PDD/ /IM01/ /IM02/ /TC/ /AL-1/ /QC/ /AL/	Implementation of training procedures as described in the letter of the Operation Manager shall be verified during the next periodic verification.	FAR P1	OK
Troubleshooting procedures <i>Assess whether troubleshooting procedures have been implemented.</i>	/IM01/ /IM02/ /MR-1/ /MCC/ /T- PEGD/	Electricity generation data are continuously (hourly) obtained by responsible staff and reported using a logbook. In case errors or variations beyond the permissible limit required by TEIAS are identified TEIAS should be informed in order to solve the identified error / failure.	OK	OK
Maintenance procedures <i>Are appropriate maintenance procedures in place?</i>	/IM01/ /IM02/ /TCMC/ /MR-1/	Maintenance of WTGs is undertaken by Enercon staff if required. Thus, Enercon staff is employed permanently. Accuracy checks of measuring devices were initially performed by TEIAS and date of initial calibration is mentioned in table B 1.1 of the MR. ULUDAĞ ELEKTRİK DAĞITIM A.Ş.requires meter calibration once in 10 years. This is deemed adequate as	CAR Q2	OK



Checklist Item	Reference	Verifiers Comments ¹	Draft Concl.	Final Concl.
		UEDAŞ has vital interest in receiving precisely measured data for the purpose of invoicing. CAR Q2 was raised in order to bring clarity to calibration requirement differences between UEADAS and TEIAS and it was closed as all relevant supporting documents were submitted.		
<p>Internal QA/QC</p> <p><i>Assess whether there are any procedures in place on when, where and how checks and reviews are to be carried out, and what evidence needs to be documented? (This might include spot checks by a second person not performing the calculations over manual data transfers, changes in assumptions and the overall reliability of the calculation processes.)</i></p>	<p>/IM01/ /IM02/ /MR-1/ /T- /PEGD/</p>	Please take comment above (trouble shooting procedures) into account.	OK	
<p>Data archive</p> <p>Check whether all records of monitoring parameters are archived according to the monitoring plan.</p>	<p>/MR-1/ /PDD / /IM01/ /IM02/ /SCADA/ /MRR/</p>	Electricity generation data is archived appropriately in a logbook, in xls-format and are obtainable via SCADA and on-line on TEIAS web page. Thus, the manner of data documentation and handling is deemed adequate.	OK	
<p>Data protection</p> <p>Assess whether appropriate measures have been taken in order to avoid unintended or intended manipulation of the measured data.</p>	<p>/IM01/ /IM02/ /MR-1/ /PDD /</p>	To manipulate the data seemed to be impossible. Meters and meter cabinets are sealed by TEIAS and since meter readings are performed upon mutual agreement, the opportunity for manipulating data is found to be unlikely.	OK	